



THE
BRITISH AMERICAN NAVIGATOR.

A
SAILING DIRECTORY

FOR THE ISLAND AND BANKS OF

NEWFOUNDLAND,

THE
GULF AND RIVER OF ST. LAWRENCE,

BRETON ISLAND, NOVA SCOTIA,

AND

THE COASTS THENCE TO BOSTON, ETC.



ORIGINALLY COMPOSED BY JOHN PURDY.

THIRD EDITION.

BY ALEXANDER G. FINDLAY,

Fellow of the Royal Geographical Society.

LONDON:
PUBLISHED FOR RICHARD HOLMES LAURIE,
53, FLEET, STREET, E.C.

1862.

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CANADIANA

BRITISH AMERICAN NAVIGATION

SAVING DIRECTORY

THE LONDON AND LIVERPOOL

NEW TOWN

GULF AND RIVER OF ST. LAWRENCE

BRITON ISLAND, NOV. 1801

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GENERAL TABLE OF THE POSITIONS,

OR OF THE

LATITUDES AND LONGITUDES, OF THE PRINCIPAL POINTS AND PLACES DESCRIBED HEREAFTER.

(A copious Index, arranged alphabetically, will be found at the end of the volume.)

* * The Longitudes are from the meridian of Greenwich. The Figures in Brackets, thus, [4], refer to the Notes subjoined to the Table.

	LAT. N.	LON. W.	AUTHORITIES.
	° ' "	° ' "	
NEWFOUNDLAND, E. COAST.			The Admiralty Surveyors, Messrs. George Holbrook and William Bullock, 1819 to 1826, adjusted by the Observations of Mr. J. Jones, 1828, Admiral Bayfield, 1859, &c.
St. JOHN'S, Fort Towns- end[1]	47 33 57	52 42 21	
Cape St. Francis	47 48 4	52 47 29	
Harbour Grace; Light on Outer Island	47 42 40	53 9 20	
Bacalieu Island; Light on North point	48 9 1	52 48 44	
Bonaventure Head	48 16 30	53 23 5	
Entrance of Trinity Har- bour	48 21 30	53 20 25	
Horse Chops	48 21 30	53 14 18	
South Head, Catalina ...	48 27 38	53 6 40	
Catalina Harbour; Green Island Light	48 30 45	53 6 18	
North Head Catalina ...	48 32 28	53 1 54	
Bonavista Gull Island ...	48 42 40	53 8 0	
Cape Bonavista; Light- house [2]	48 42 0	53 8 0	
Young Harry Reef	48 48 5	53 7 15	
Southern Head	48 37 15	53 21 48	
Western Head	48 37 15	53 27 48	
Little Denier Island ...	48 40 50	53 36 38	
Great Black Island; cen- tre of	48 50 8	53 38 3	
Malone's Rock	48 53 30	53 27 40	
Offer Gooseberry Island ..	48 58 20	53 30 0	
Shoe Cove Point	49 4 40	53 57 30	
Fool's Island, off the N.W. Arm	49 9 15	53 36 30	
Stinking Islands	49 13 40	53 22 20	
Charge Rocks (6 feet)....	49 18 0	53 32 8	
Freels' Gull Island[3]	49 19 6	53 26 58	
Outer Cat Island	49 53 55	53 36 20	
Deadman's Point	49 22 18	53 43 30	
Ragged Point	49 30 0	54 0 0	
Green Island, in Rocky Bay	49 29 0	54 14 0	
Funk Island; Escape or East point	49 44 42	53 13 20	

REMARKS.

In former editions the longitudes of the S.E. and South coasts were deduced from the observations and Surveys of Captain James Cook, Lieutenant M. Lane, Messrs. Cassini, Verdun, Borda, Pingre, and Owen; and these were, generally, from 10 to 15 minutes eastward of those now given in the Table: but the longitude of the Burgeo Isles [*Eclipse I.*] remains as given by Captain Cook; and that of St. Pierre may, also, be considered as the same.

	LAT. N.	LON. W.	AUTHORITIES.
	° ' "	° ' "	
Snap Rock, of 10 feet . . .	49 54 0	53 43 43	The Admiralty Surveys, by Lieutenant (since Captain) Fred. Bullock, R.N., and his assistants, Messrs. T. Smith, &c., 1823, 1824, 1825, and 1826. The longitudes adjusted by the Observations of Captain H. W. Bayfield, &c.
Inspector Rock (sometimes breaks)	49 47 0	54 6 40	
Ireland Rk. (always breaks) . . .	49 51 45	54 4 0	
Offer Wadham Island; Lighthouse	49 36 0	53 46 0	
Cape Fogo; S.E. extremity . . .	49 39 30	54 1 0	
Fogo Harbour; Eastern Entrance	49 44 20	54 17 36	
Change Isles; N.E. Islet	49 41 35	54 24 0	
Toulinguet Harbour; N. Entrance	49 36 0	54 7 30	
Fortune Harbour; N.W. point	49 32 0	55 17 0	
Triton Harbour; Entrance	49 33 0	55 37 0	
Cutwell Harbour; E. point	49 37 0	55 40 0	
Nippers' Isles; S.E. point	49 47 0	55 52 0	
Bishop's Rock	49 55 30	55 27 30	
St. John's Gull Isle	49 59 30	55 22 0	
PROMONTORY OF ST. JOHN:			
North Bill	49 59 30	55 31 20	
Middle Cape	49 57 30	55 29 20	
South Bill	49 56 5	55 29 50	
La Scie Harbour; Entrance	45 58 0	54 36 50	
Paquet Harbour; Entrance	49 58 30	55 51 38	
ST. BARBE, or HORSE ISLES; South-east point	50 11 0	55 43 0	
Fleur de Lys Harbour; East Point	50 6 40	56 8 30	REMARKS. By these excellent Surveys, a very important desideratum has been obtained; for before they were executed, the coasts which they display were comparatively unexplored, although frequented more or less by the fishers.— <i>British American Navigator</i> .
Partridge Point	50 9 20	56 9 50	
Coney Arm Head	49 57 30	56 46 30	
Cat Head; Extremity	50 7 0	55 40 50	
Little Harbour-deep Head	50 14 0	56 33 30	
Orange Bay; Entrance	50 22 0	56 27 30	
Fourchet Harbour; Ent.	50 31 0	56 17 30	
Hooping Harbour; Entr.	50 36 0	56 14 0	
Canada Bay; Entrance	50 42 30	56 8 30	
Rouge Isle; North point	50 54 0	55 48 30	
Southern Belle-Isle; N.E. Point	50 48 0	55 29 0	
Groais Isle; N.E. point	50 58 30	55 33 30	
Croque Harbour; Entrance	51 2 30	55 47 52	
Fishot Isles; Northern Isle	51 12 30	55 40 50	
How Harbour; Entrance, West point	51 20 0	55 57 30	
Goose Cape; S.E. point	51 17 20	55 37 40	
Crémaillière Cove; Entrance, East point	51 18 30	55 6 50	
Cape St. Anthony	51 21 0	55 31 35	
Bréhat or Braha Shoal (6½)	51 25 40	55 26 20	
Needles Rocks, near Braha	51 26 5	55 29 5	
White Cape, near St. Lunnair Bay	51 30 25	55 27 53	
Griguet Bay; East point	51 32 30	55 27 50	
Cape Bauld	51 38 10	55 26 53	
Cape Norman [4]	51 38 5	55 53 28	
Greenly Island	51 23 11	57 10 43	

	LAT. N.	LON. W.	AUTHORITIES.
SOUTH COASTS OF NEW- FOUNDLAND.			
St. John's; Light on Fort Amherst, S. entrance ..	47 33 50	52 39 55	The Admiralty Surveyors, as before.
Cape Spear; Lighthouse	47 30 53	52 36 40	
Bull Head	47 13 1	52 44 33	A Survey of <i>Port St. Pierre</i> , by Lieutenant Du Petit Thouars, gives the Government House, N.E. of the town, in 46° 46' 30" N., and 56° 9' 45" W. The French astro- nomers, Messrs. Verdun, Borda, and Pingre, in the voyage of <i>La Flore</i> , 1771, gave the town of St. Pierre in 46° 46' 30" N., and 56° 10' W., and thus confirmed the pre- vious determination of the Burgeo Islands, by Captain Cook, from a solar eclipse, in August, 1766.— <i>Phil. Trans.</i> , 1767.
Cape Broyle, N. point of ..	47 3 52	52 50 40	
Cape Ballard	46 46 46	52 56 57	
Cape RACE; Lighthouse	46 39 12	53 2 43	
Virgin Rocks, on the Great Bank of Newfoundland	46 26 30	50 55 20	
Trepassey Harbour; Shin- gle Neck	46 43 32	53 22 3	
Cape Pine; Lighthouse ..	46 37 4	53 31 48	
St. Mary's Cape; Light- house	46 49 25	54 9 33	
Placentia Harbour	47 15 11	53 50 3	
Little Southern Harbour	47 43 32	53 49 38	
Extremity of Placentia Bay	47 49 46	53 52 14	Captain (now Rear-Admiral) H. W. Bayfield, 1827 to 1860. and Captain James Cook.
Bordeaux Harbour	47 45 28	52 53 30	
Great Burin Island; Light on Dodding Head	47 1 30	55 5 14	
CAPE CHAPEAUROUGE ..	46 54 19	55 19 20	
St. PIERRE; Lighthouse on Galantry Head	46 45 30	56 6 54	
Cape Miquelon	47 8 11	56 17 30	
Connaigre Shoal	47 23 57	55 57 19	
Pass Island	47 29 2	50 11 13	
Cape La Hune	47 31 55	56 50 23	
Outer Penguin Island	47 22 9	56 58 7	
Burgeo Islands; Eclipse Island	47 36 6	57 36 15	
CAPE RAY; S. extreme [5]	47 37 2	59 18 8	
WEST COASTS OF NEW- FOUNDLAND.			
Cod Roy Isle; S. side	47 52 38	59 23 35	
Cape St. George	48 28 54	59 11 44	
Red Isle; S.E. point	48 33 50	52 13 26	
South Head of the Bay of Islands	49 6 12	58 20 50	
Cow Head	49 55 12	57 48 25	
Port Saunders; Entrance N.E. point	50 38 36	57 18 53	
Point Rich; West extremity	50 41 39	57 24 23	
Point Ferolle; Cove Point, N.E. extremity	51 2 14	56 2 48	
Anchor Point	51 14 30	57 42 40	
Green Islet; N.E. Extrem- ity	51 24 18	56 33 53	
Cape Norman	51 38 5	55 53 28	

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&c., 1823,
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t. W. Bay-

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POSITIONS OF PLACES

	LAT. N.	LON. W.	AUTHORITIES.
THE GULF.			
ISLAND OF ST. PAUL.			
Northern Extr. Lightho.	47 13 50	60 8 20	The Observations of Captain (since Rear-Admiral) Henry Wolsey Bayfield, F.R.A.S., of H.M. surveying vessel, <i>Gul-</i> <i>nare</i> , 1827 to 1834.
Eastern side of Neck	47 13 9	60 8 30	
MAGDALEN ISLANDS.			
Entry Isle; N.W. point ..	47 17 1	61 43 2	
Deadman Islet; W. point	47 16 3	62 12 28	
Amherst Harbour; Entr.	47 15 28	61 42 29	
Coffin's Island; N.E. point	47 17 30	61 23 0	
Northern Bird Islet.....	47 51 2	61 9 18	
Bryon or Cross Isle; E. pt.	47 47 53	61 23 40	
ANTICOSTI.			
East point; Extreme	49 8 17	61 40 0	
South point	49 3 35	62 15 33	
Heath point; Lighthouse	49 5 20	61 31 51	
S.W. point; Lighthouse..	49 23 45	63 35 49	
Cape Henry; S.E. Extr...	49 47 42	64 23 44	
West point; Extremity ..	49 52 12	64 33 8	
North point; Extremity..	49 57 32	63 9 0	
Observation Cape; W. side	49 38 51	62 41 27	
Bear Bay; Entrance of the River	49 30 22	62 24 32	
LABRADOR, &c.			
Cape St. Michael	52 47 0	55 27 0	The Survey by Captain Fredk. Bullock, R.N.
Cape St. Francis	52 37 0	55 31 18	
Point Spear	52 32 0	55 28 18	
Belle-Isle; N.E. point....	52 1 8	55 15 30	
— Lighthouse on S. pt.	51 53 0	55 22 18	
Cape St. Lewis; Small pen- insula on S.E. point ..	52 21 16	55 38 28	
Battle Islands; N.E. ex- treme of S.E. Island ..	52 15 36	55 32 23	
Henley Island; middle of North side	52 0 0	55 50 23	
York Point; East extreme	51 57 53	55 52 33	
Red Bay; Harbour Island, S.E. point	51 43 47	56 25 53	
Loup Bay; Flagstaff at head of Bay	51 31 27	56 48 58	Captain (now Rear-Admiral) H. W. Bayfield.
Bradore Harbour; Flag- staff on Jones House ..	51 27 30	57 14 15	
Belles Amours point.; S.E. Extreme	51 26 34	57 25 53	
Forteau Bay; S.W. extreme point	51 25 29	56 56 33	
Amour Point; Lighthouse	51 27 35	56 50 56	
Bradore Hills; N.W. hill, 1,264 ft., the Notre Dame of Cook and Lane	51 35 3	57 11 58	

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Mistar
Cove
Mecat
point
Grand
Antrol
of I
Hare
Wapit
point
Cape
Ext
Coacoc
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end
Natas
of I
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pt. I
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POSITIONS OF PLACES.

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	LAT. N.	LON. W.	AUTHORITIES.
	° ' "	° ' "	
Lion Island; Isthmus	51 24 1	57 38 33	The Surveys by Admiral H.W. Bayfield, 1827-1860.
Mistanoque I.; E. point of Cove in N. side Island . .	51 15 43	58 12 8	
Mecattina Harbour; S. point of Dead Cove	50 46 44	58 59 23	
Grand Mecattina pt. Ex.	50 44 2	59 5 13	
Antrobus Point; North pt. of Island	50 33 12	59 16 48	
Hare Harbour; East side	50 36 24	59 17 23	
Wapitagan Harbour; East point of Islet	50 11 40	60 1 23	
Cape Whittle; South-west Extreme of Lake	50 10 36	60 7 0	
Coacocho Bay; S. point of Outer Islet	50 9 4	60 18 13	
Kegashka Bay; Islet at S. end of Beach	50 11 19	61 15 38	
Natashquan River; S. point of Entrance	50 6 57	61 47 58	
Little Natashquan Har.; N. pt. Islet at head of Bay	50 11 41	61 50 33	
Nabesippi River; S.E. of Entrance	50 13 52	62 13 0	
Appetetat Bay; E. point . .	50 16 35	62 58 13	
Betcheween Harbour; S.E. point of Low Isle	50 14 13	63 10 32	
Clearwater Point; S. Ex.	50 12 27	63 27 6	
Mingan Harbr.; Sandy pt.	50 17 24	64 1 56	
Mingan Island; Summit . .	50 12 48	64 7 31	
St. John River; E. point of Entrance	50 17 3	64 23 16	
Manitou Point; Extreme	50 17 34	65 14 8	
St. Charles Pt.; S. Extreme	50 15 17	65 48 48	
Moisie River; S.W. point of Entrance	50 11 16	66 4 38	
Carousel Island; S. Extreme	50 5 21	66 23 33	
Seven Islands Bay; Store House, East side	50 13 0	66 24 4	
St. Margaret's Bay; Exty.	50 2 25	66 44 43	
Cawee Islands; W. point of Little Island	49 29 21	67 1 53	
Egg Islands; West pt. of North Island	49 38 13	67 10 6	
Trinity Bay; S.W. point	49 23 39	67 18 8	
Point de Monts; Lightho.	49 19 35	67 21 58	
—South extreme . .	49 18 41	67 23 18	
RIVER ST. LAWRENCE; N. SHORE.			
Goodbout R; Trading post	49 18 25	67 36 4	
St. Nicolas Pt. S. Extreme	49 15 47	67 50 4	
Manicouagon Pt.; S.E. Ex.	49 6 5	68 11 55	
Bersimis River; S. point of Entrance	48 55 23	68 36 54	
Bersimis Point; S. extreme	48 53 57	68 38 29	

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POSITIONS OF PLACES.

	LAT. N.	LON. W.	AUTHORITIES.
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Jeremie; Trading Post ..	48 52 45	68 46 46	The Surveys by Admiral H. W. Bayfield, 1827-60.
Port Neuf; Church	48 37 17	69 5 53	
Tadoussac (Saguenay River); Store on Beach	48 8 32	69 42 52	
Chicoutimi (Saguenay Ri- ver; Trading Post	48 26 5	71 4 51	
Ile aux Coudres; West point of Laprairie Bay	47 24 40	70 24 52	
QUEBEC; N. Bastion [6]	46 49 0	71 12 49	
——; Wolf Monument	46 48 38	71 12 31	
——; Flagstaff, King's			
Bastion, Citadel	46 48 32	71 12 33	
RIVER ST. LAWRENCE; ABOVE QUEBEC.			
St. Jean des Chaillons; R.			
C. Steeple	46 33 23	72 7 6	
Cap Madeline; R.C. steeple	46 22 6	72 30 3	
Three Rivers; E. steeple	46 20 43	72 32 10	
Point du Lac R. C. Steeple	46 17 21	72 41 20	
Sorel; Episcopal Church	46 2 42	73 6 50	
Repentigny; R.C. steeple	45 44 28	73 26 49	
MONTREAL; Gate Island			
N. end Lighthouse	45 30 22	73 33 5	
——; R. C. Cathedral [7]	45 30 24	73 33 18	
RIVER ST. LAWRENCE S. SHORE.			
Dauphin River; Orleans			
Isle, S.W. pt. of entrance	46 58 4	70 50 44	
Stone Pillar I. Lighthouse	47 12 25	70 21 39	
Kamouraska; N.E. pt. of			
Crow Island	47 35 9	69 52 39	
Brandy Pots; S. pt. of S.Rk.	47 52 28	69 40 39	
Loup River; N. pt. of Ent.	47 50 57	69 33 41	
Red Island; Lighthouse ..	48 4 20	69 32 59	
Green Island; Lighthouse	48 3 17	69 25 6	
Razade Rocks; N. E. one	48 12 27	69 8 3	
Bicquette Island; Lightho.	48 25 18	68 53 3	
Bic I.; N.E. Ex. of S.E. Rf.	48 25 9	68 58 23	
Barnaby I., North-east pt.	38 29 35	68 31 56	
Camille Mt.; sumt. 2,036ft.	48 28 36	68 12 50	
Metis; Reef off Little Metis	48 41 10	68 1 34	
Matan R.; S.W. point. of			
Entrance	48 51 35	67 31 24	
Cape Chatte; Extreme ..	49 5 52	66 45 16	
Mt. Lewis R.; E. pt. of Ent.	49 14 29	65 43 34	
Great Fox Bay; Centre of	48 59 57	64 22 55	
Cape Rozier; Lighthouse	48 51 37	64 12 3	
Cape Gaspé; Flower-pt. rk.	48 45 2	64 9 26	
NEW BRUNSWICK, &c.			
Cape Despair; Extreme ..	48 25 22	64 8 32	

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POSITIONS OF PLACES.

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	LAT. N.			LON. W.			AUTHORITIES.
	°	'	"	°	'	"	
Macquereau Pt; N.E. Ex.	48	12	18	64	46	14	The Surveys by Admiral H.W. Bayfield, 1827-1860.
Port Daniel; N. side W. pt.	48	9	10	64	56	55	
Paspebiac; Episcopal Ch.	48	1	47	65	15	6	
Bonaventure Pt.; S. Extr.	48	0	17	65	26	26	
Carlton, or Tracadigash Point; N.W. Extreme..	48	5	9	66	7	10	
Dalhousie Island; E. point	48	4	16	66	21	26	
Black Rock; Station on ..	47	51	54	65	45	30	
Bathurst Har.; Carrou Pt.	47	39	19	65	36	59	
Mizzenette Point; Station	47	50	2	64	58	43	
Caraquette Island; S.E. ex- treme of Sandy Spit ..	47	49	19	64	51	45	
Shippigan Harbour; Fall's Wharf	47	44	52	64	42	12	
Miscou Island; Lighthouse	48	1	0	64	29	28	
Shippigan Gully; N. Ent.	47	43	24	64	39	36	
Miramichi; Bai du Vin Is- land, N.E. Extreme	47	6	19	65	4	21	
Escuminac Pt.; Lighthouse	47	4	32	64	47	17	
Richibucto River; N. bea- con at Entrance	46	43	4	64	47	32	
Buctouche Riv.; Sta. at En.	46	26	55	64	37	45	
Cocagne Head; Ex. of Cliff	46	21	31	64	31	41	
Shediac; Episcopal Church	46	14	15	64	33	32	
Cape Tormentine; N.W. extreme of Joureman Is.	46	10	6	63	42	7	
Tignish Head, Bay Verte; Station	46	0	28	64	1	0	
Pugwash; Episcopal Ch.	45	51	14	63	30	18	
Amet Island; East Extreme	45	50	15	63	9	40	
Pictou Harbour; Lightho.	45	41	25	62	39	10	
Pictou Is.; Lightho. E. end	45	49	50	62	29	54	
Cape George; Station in Ballantine Cove	45	51	49	61	54	32	
Antigonish Har.; N. beacon	45	41	49	61	52	56	
Pomquet Island; S.E. Ex.	45	39	17	61	44	5	
Gut of Canso; Light N. Ent.	45	41	42	61	28	42	
PRINCE EDWARD IS- LAND.							
North Point Extreme of Cliff	47	3	41	63	59	3	
W. Pt.; High Water Extr.	46	37	14	64	23	0	
Cape Egmont Stn. on Extr.	46	24	11	64	7	39	
Bedeque Harbour; Green's Wharf	46	23	32	63	47	10	
Cape Traverse; Ex. of Cliff	46	13	17	63	38	51	
St. Peter's Is.; Station S.W. Extreme	46	6	59	63	11	29	
Charlottetown; Flagstaff on Fort. [8]	46	13	55	63	7	7	
Prim Point Lighthouse ..	46	3	10	63	1	50	
Panmure Island; Lightho.	46	8	47	62	27	24	
E. Pt.; Stn. on ex. of cliff	46	27	15	61	57	42	
St. Peter's Harbour; Sand Hill, E. side of entrance	46	26	44	62	43	56	

POSITIONS OF PLACES.

	LAT. N.	LON W.	AUTHORITIES.
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Tracadie Harbour; Eastern point of Entrance	46 24 51	63 1 44	The Surveys by Admiral H.W. Bayfield, and Commander Orlebar, R.N. 1827-60.
Grenville Harbour; High Sand Hill near Entrance	46 30 50	63 27 29	
Richmond Bay; Station on Royalty point	46 33 55	53 1 50	
Cascumpeque Har.; Light.	46 48 22	64 2 0	
Cape Kildare; Extreme . .	46 52 57	63 57 44	
CAPE BRETON ISLAND			
Bear Head; Extreme	45 33 5	61 17 5	
Plaster Cove; N. end of Bridge	45 38 56	61 23 36	
M' Keen Point; Extreme	45 38 51	61 23 54	
Port Hood; Harbour Lt. at South Entrance	46 0 0	61 31 40	
Sea Wolf Island; Lightho. on summit	46 21 30	61 15 33	
Chetican Point; S. extreme	46 36 22	61 2 58	
Cape St. Lawrence; N. ex.	47 2 54	60 35 36	
Cape North; N. extreme . .	47 2 35	60 24 56	
Cape Egmont; E. extreme	46 51 1	60 18 3	
Inganish; Archibald point	46 41 31	60 21 18	
St. Anne Harbour; Beach Point	46 17 41	60 32 25	
Carey Point; W. side of entrance of Gt. Bras d'or	46 11 41	60 24 50	
Cunet Point; Extreme . .	46 20 32	60 17 16	
Sydney Harbour; Lighthouse on Flat Point	46 16 12	60 7 22	
Table Head; Extreme . .	46 13 14	59 57 4	
Flint Island; Lighthouse on North-east end	46 11 5	59 45 50	
Scatari Island; Lighthouse	46 2 13	59 40 18	
Menadou Harbour	46 0 29	59 49 58	
Cape Breton; Extreme . .	45 57 14	59 47 3	
Gabarus Bay; Church on Cape	45 42 7	60 5 3	
Louisburg; Lighthouse . .	45 54 34	59 57 15	
Michaux Point; Station on Extreme	45 34 11	60 41 0	
L'Ardoise; R. C. Church Steeple	45 36 45	60 45 59	
St. Peter Island; S.W. Ex.	45 35 54	60 48 39	
St. Peter Bay; Old Fort on West side of Haulover . .	45 39 21	60 52 4	
MADAME ISLAND.			
Grande-digue Lennox Passage; Station	45 35 49	61 1 11	
Arichat Harbour; Jerseyman island, N. extreme	45 30 25	61 3 7	
—; Lightho. Marache Point	45 29 2	61 1 52	

POSITIONS OF PLACES.

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	LAT. N.	LONG. W.	AUTHORITIES.
NOVA SCOTIA, &c.— SOUTHERN COASTS.	° ' "	° ' "	The Surveys by Admiral H.W. Bayfield, and Commanders Shortland and Orlebar, R.N., 1827-60.
SABLE ISLAND:			
West Flagstaff	43 26 24	60 3 15	
West extreme of Grassy Sand Hills	43 56 44	60 8 56	
East Extreme	43 58 57	59 45 58	
The MAINLAND: [9]			
Cranberry Is.; Lightho.	45 19 45	60 55 54	
Canso Harbour; Cutler Island, S.E. Extreme	45 20 42	60 59 27	
—; Steeple of Church	45 20 10	61 59 25	
White Head Island; Light.	45 11 58	61 8 27	
White Haven; Observation station in Marshall Cove	45 14 37	61 11 43	
Berry Head; Extreme ..	45 11 37	61 18 58	
Mew Harbour Head; Nob	45 9 7	61 28 21	
Harbour Island; N.E. Pt.	45 8 25	61 36 43	
Isaac Harbour; Red Head, summit	45 9 39	61 38 52	
Country Harbour; Station opposite Window Point	45 14 41	61 47 6	
Hollins Head; summit ..	45 4 19	61 44 57	
Wedge Island; Beacon ..	45 0 36	61 22 47	
St. Mary River; above Episcopal Church.....	45 6 12	61 58 7	
Liscomb Harbour; Spanish ship Point	45 0 28	62 1 8	
Mary Joseph Harbour; Lobster Point extreme..	44 57 52	62 4 57	
Beaver Island; Lighthouse	44 49 33	62 20 38	
Salmon Riv.; W. of wharf	44 54 32	62 23 33	
Sheet Harbour; $\frac{1}{4}$ mile N.W. from Watering Cove	44 54 11	62 30 37	
Taylor Head: summit....	44 47 24	62 33 8	
Pope Harbour; Harbour Island, N.E. Extreme ..	44 47 50	62 39 10	
Ship Harbour; Islet near Salmon Point	44 46 59	62 49 13	
Egg Island; Centre	44 39 55	62 52 9	
Jedore Harbour; Marsh Pt.	44 43 19	63 0 39	
Jedore Rock; Centre	44 39 49	63 0 57	
Jedore Head; Point	44 40 22	63 3 14	
Graham Head; summit ..	44 37 44	63 17 23	
Devil Island; Lighthouse	44 34 48	63 27 51	
Halifax Harbour; Lighthouse, Maugher Beach..	44 36 6	63 32 18	The surveys by Admiral Bayfield 1853.
Grahams Head; summit..	44 37 44	63 17 23	
Laurenceton Head; summit	44 38 34	63 21 35	
HALIFAX; Dockyard Observatory	[10] 44 39 38	63 35 35	
Holderness Island, on the S.W. side of Margaret's Bay	44 34 20	63 58 48	The survey made by Mr. Joseph F. W. Des Barres, 1775, with subsequent emendations.
Green Island; off Mahone Bay	44 27 0	64 0 18	

POSITIONS OF PLACES.

	LAT. N.	LONG. W.	AUTHORITIES.
Cross Island; off Lunenburg Harbour; Lighthouse..	44 20 0	64 7 0	The surveys by Commander Shortland, R.N., Admiral Bayfield &c.
Cape Le Have; Ironbound Island; Lighthouse....	44 15 40	64 17 2	
Medway Head; Admiralty Head, Lighthouse.....	44 6 0	64 34 32	
Coffin's Island Lighthouse, near Liverpool Harbour	44 3 0	64 36 32	
Mouton or Matoon Island	43 57 0	64 43 32	
Shelburne or Cape Roseway Lighthouse on Macnutt Island.....	43 37 31	65 17 2	
Baccaro Point; Light on East side of Port Latour	43 26 54	65 29 11	
Brasil Rock	43 24 15	65 23 48	
Seal Island; Lighthouse; half mile from S. point	43 23 34	66 1 50	
Cape Fourchu, near Yarmouth; Lighthouse....	43 47 30	66 10 18	
Bryer's Island; Lighthouse	44 14 57	66 23 2	Lieuts. Harding and Kortwright, R.N.
Point Prim; Lightho. (Entrance of Annapolis Basin)	44 40 50	65 37 49	
Black Rock Point; Lightho.	45 10 48	64 48 30	
Horton Bluff; Lighthouse	45 6 15	64 2 30	
Partridge Island Light, in the Mines Channel	43 23 0	64 8 30	
Cape Chignecto	45 22 0	64 51 18	
NEW BRUNSWICK.			
Cape Enragé; Lighthouse	45 36 0	64 47 10	
Quako Head; Lighthouse	45 19 36	65 22 34	
Partridge Island; Lightho.	45 14 2	66 4 0	
CITY of ST. JOHN	45 15 30	66 4 18	
Point Lepreau; Lighthouse	45 3 50	66 27 33	
THE UNITED STATES.			
MAINE.			
Passamaquoddy Bay; Light on Quoddy Head	44 49 0	66 57 0	The surveys by S. Holland, Esq., with subsequent corrections.
Little River; Light at ent.	44 39 22	67 10 35	
Machias Seal Islands; Lightho. on E. one (Brit.)	44 30 0	67 5 30	
Machias Bay; Light on Libby Island.....	44 30 4	67 21 12	
Moose a-bec or Moose peak; Mistake Island Light ..	44 28 52	67 31 43	
Petit Manan; Lighthouse on S. end	44 22 0	67 52 0	
Mount Desert Rock; Light.	43 59 30	68 4 41	
Ile au Haut; Light on Saddle Back Islet	41 1 47	68 3 49	
Matinicus Rock; Lightho.	43 51 15	68 47 58	
PENOBSCOT BAY; Ragged Mountain on W. side ..	44 12 44	69 9 12	

NOTES TO THE PRECEDING TABLE.

1. **ST. JOHN'S**.—The longitudes of all the places on the eastern coast of Newfoundland are given *westward* of those assigned in the early editions of this work.

The longitude of St. John's, as deduced from the observations of Captain James Cook, Lieutenant Michael Lane, Messrs. Cassini, Verdun, Borda, Pingré, and Owen, would be generally from fifteen to ten minutes eastward of the longitude in the Table; Fort Amherst, at the entrance of the harbour, having been given in $52^{\circ} 29' W.$, or $13^{\circ} 45'$ eastward of the later observations.

In the years 1828, 1829, and 1830, the officers of H.M.S. *Hussar*, under the orders of Rear-Admiral Sir Charles Ogle, made many observations in this part of the world; and the result given by Mr. John Jones, for the longitude of Fort Townsend, is $64^{\circ} 45' 22'' W.$, and latitude $47^{\circ} 33' 42''$, and which position was recorded in the fort itself.

The last determination by Admiral Bayfield as given in the table, removes this longitude $3' 8''$ to the *eastward*. The coasts to the northward appear to have been given much more to the *westward*. It is necessary to notice these discrepancies here, although the amounts of differences as now settled, are not important to the general navigator.

2. **CAPE BONAVISTA**.—The assigned positions of this cape, is an evidence of the uncertainty which exists in the longitudes of this survey. The first sheet of the survey by Messrs. Holbrook and Bullock, made the longitude $52^{\circ} 59' 15''$. In the re-issue, shortly afterwards, of the same sheet, it was shifted to longitude $53^{\circ} 8' 20''$, or $8' 35''$ further west, nearly as it now stands.

3. **CAPE FREELS**.—In the valuable survey northward of Cape Freels, by Lieut. Frederick Bullock, 1823-24, this cape is placed $5' 10''$ South of the same, as given in the survey southward, by Messrs. Holbrook and William Bullock, in 1817: to connect this with the southern parts, we have given the latter authority.

4. **CAPE NORMAN**.—This cape is placed by Rear-Admiral Bayfield in $51^{\circ} 37' 57''$ North, and $25^{\circ} 53' 28''$, or $6' 20''$ to the West of the former surveys; and the longitudes of the whole of the N.E. coast, as far as Cape Freels, have been made in accordance with this.—See Note 8.

5. **CAPE RAY, &c.**—The South and West coasts of Newfoundland are still represented according to the surveys of the circumnavigator, Captain James Cook and Michael Lane, at the latter part of the last century. The original charts, published by Mr. Laurie's predecessors, are still in request, and it will be seen, upon comparison, that the positions given in Cook's first work are still found to be near the truth.

6. **QUEBEC**.—In the early editions of this work, the longitude of Quebec was stated to be $71^{\circ} 10'$, "according to the observations of M. le Marquis de Lotbinière, M. Bédard, Director of the Seminary of St. Louis, and Captain Holland. M. Mechain computed the longitude to be $71^{\circ} 10'$, by several eclipses of Jupiter's first satellite, observed by Messrs. Lotbinière and Holland; and the passage of Venus that Captain Holland observed in 1769. All the observations, made at different times, have given very coherent results."—Vide *American Trans.*, vol. i., &c.

The above passage, from "Analysis of a General Chart," &c., Paris, 1786, shows the position in which Quebec was laid down in the Charts; and it agreed with that given in the "Connaissance des Temps." But Quebec was afterwards exhibited considerably more to the eastward. Mr. Wright, in his chart of 1807, made it $70^{\circ} 27'$. The Requisite Tables, of 1802, gave latitude $46^{\circ} 48' 38''$, longitude $71^{\circ} 5' 22''$. Colonel Bouchette, in his work on Canada, 1815, gives $46^{\circ} 48' 49'' N.$, and $71^{\circ} 11' W.$ In the years 1819, 1820, and 1821, the officers of H.M.S. *Newcastle*, provided with four chronometers, made many observations in the river; and these observations may be judged of by the longitude they placed Quebec in for three successive years, assuming Halifax as in $63^{\circ} 33' 40''$; July 16th, 1819, $71^{\circ} 12' 48''$; June 19th, 1820, $71^{\circ} 13' 14''$; July 5th, 1821, $71^{\circ} 12' 25''$. The greatest difference is $49''$, and the mean of the whole is $1'$ farther West than longitude given in 1819.

From these and other observations combined, the late Mr. Purdy placed Quebec in longitude $71^{\circ} 13'$, in the charts, &c., which he constructed, as they still remain.

When the charts of Captain H.W. Bayfield were published in 1837, they were based upon a longitude of $71^{\circ} 16' W.$ for Quebec. This has been shown to be in error nearly $3\frac{1}{2}$ minutes of arc, by electric telegraphic signals transmitted between Quebec and Cambridge Observatory, in Massachusetts, by Lieut. E. D. Ashe, R.N., in September and October 1857.

The position of Cambridge, as will be seen in the Note on that longitude on a subsequent page, is definitely settled as $71^{\circ} 7' 58''.55$, and the mean difference between that observatory and the Observatory in Mann's Bastion in the Citadel of Quebec, as determined by Lieutenant Ashe, is $0^{\circ} 4' 34''.17$, which places Quebec in $71^{\circ} 12' 32''.72$.

7. MONTREAL.—The longitude of Gate Island, opposite the Cathedral, and the Hotel Dieu, is given by Captain Bayfield in $73^{\circ} 34' 38''$ (erroneously on Admiralty Charts, as $68^{\circ} 54' 38''$).

Lieutenant Ashe, R.N., as stated above, in continuation of his work on electric time-signals, obtained the difference of longitude between Quebec and Viger Square, 630 feet west of Gate Island, on March 12th, 1857, as $2^{\circ} 20' 45''.5$, which makes it in longitude $73^{\circ} 33' 18''.12$, as shewn in the Table.

8. CHARLOTTETOWN and PRINCE EDWARD'S ISLAND.—The position of the flag-staff in the Fort of Charlottetown, has recently been given by Rear-Admiral Bayfield as $46^{\circ} 13' 55''$, lon. $63^{\circ} 7' 23'' W.$ It had been before placed $3'$ more to the West, but the exact difference of longitude between this point and Quebec, has lately been determined by the electric telegraph, as $8^{\circ} 5' 26''$.

9. NOVA SCOTIA.—The coasts of Nova Scotia have been heretofore laid down from the surveys of Mr. Des Barres, with emendations by Mr. A. Lockwood, R.N., and various corrections in position by Admiral Owen and others. Since the completion of the survey of the Canadian coasts, our Admiralty Surveyors, Admirals Bayfield and F. W. Owen, with Captains Shortland and Orlebar, have been proceeding with the re-examination of the S.E. shores of Nova Scotia, and those of part of the Bay of Fundy, the results of which, as far West as Halifax, as shewn in the table.

10. HALIFAX.—In former editions of this work the following appears:—"The latitude of the Naval Yard of Halifax, from observations very carefully made by the officers of H.M.S. *Niemen*, in 1822, was $44^{\circ} 39' 37''$. This was gained by eleven meridian altitudes with the artificial horizon, and several observations made on each side of noon at small intervals; the mean true altitudes being computed from the hour angles. The longitude, $63^{\circ} 33' 43''$, was obtained as the mean result of more than 30 sets of lunar distances. We formerly gave the longitude of M. Des Barres, &c., as $63^{\circ} 32' 40''$, and therefore presume that a statement of $63^{\circ} 37' 48''$, which has lately appeared, is $4'$ too far West."

Captain Bayfield, as above stated, assumed the longitude of the Dockyard, in his survey to be $63^{\circ} 37' 48''$. The late Admiral W. F. Owen, in H.M.S. ship "*Columbia*," in 1844, made it $63^{\circ} 35' 28'' W.$ The late respected Lieut. Raper, takes it as a secondary meridian as $63^{\circ} 37' 26''$, or, as Captain Bayfield.

Recent observations shew that M. Des Barres' longitude is as near the truth, accidentally perhaps, as that resulting from the refined operations of Admiral Bayfield, a mean between the two positions being that which must now be adopted.

In the determination of this, and of other longitudes, the Electric Telegraph has decided the question beyond controversy.

The difference of longitude between Cambridge Observatory, Massachusetts, and that of Halifax Dockyard, has been determined, electrically, by Professor Bond, and Captain Shortland, R.N., to be $0^h 30^m 9^s$ in time, or $7^{\circ} 32' 23''.45$ in arc. This meridional difference applied to the determined longitude of Cambridge, as shewn in the note, or $71^{\circ} 7' 58''.55$, makes Halifax Dockyard Observatory to be in $63^{\circ} 35' 35''. W.$ of Greenwich.

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NEWFOUNDLAND, ETC.

Throughout this WORK, the given LONGITUDE is the LONGITUDE from GREENWICH. The BEARINGS and COURSES are those by COMPASS, unless where otherwise expressed: but those given thus [E.N.E.] signify the true; and the given direction of WIND, TIDE, and CURRENT, is to be considered as the true. The given Depths are those at Low Water, Spring Tide.

VARIATIONS OF THE COMPASS, 1861.

Newfoundland.—The Magnetic Variation in the Environs of St. John's is about 31° degrees West; in Bonavista Bay, from 33 to 34 degrees. In the years 1833-4, near Cape Ray it was 24 degrees West, it is now 28° ; at the Isle of St. Paul, it is $27^{\circ} 16'$; Magdalen Islands, $23^{\circ} 16'$; Eastern point of Prince Edward Island, $23^{\circ} 40'$; Pictou Harbour, $22^{\circ} 30'$; Sydney Harbour, Breton Island, 24° ; Cape Breton, $26^{\circ} 10'$. These variations are increasing at the rate of from $7'$ to $8'$ per annum.

Coast of Labrador.—Bradore Harbour, $35^{\circ} 25'$ W.; Little Mecatina, $32^{\circ} 29'$; off Kegashka $30^{\circ} 10'$; Mingan Island, $28^{\circ} 20'$; East end of Anticosti, $28^{\circ} 24'$; West end of the same, $27^{\circ} 15'$. Increasing at the rate of $7'$ per annum.

River St. Lawrence.—Seven Isles, $26^{\circ} 15'$; Cape de Monts, $24^{\circ} 15'$; Father Point, $21^{\circ} 30'$; Port Neuf, $20^{\circ} 30'$; off the Isle Bic, 21° ; at Tadousac, on the mouth of the Saguenay, 19° ; Isle aux Condres, $18^{\circ} 10'$; Quebec and Isle of Orleans, $17^{\circ} 15'$; Trois Rivières, 13° ; Lake St. Peter, $12\frac{1}{2}^{\circ}$; Montreal, $10^{\circ} 12'$. Increasing about $5\frac{1}{2}'$ per annum.

Nova Scotia, &c.—At Halifax it is $19^{\circ} 17'$ W.; off Mahone Bay, $19\frac{1}{2}^{\circ}$; near Liverpool Bay, $18^{\circ} 20'$; Cape Sable, Seal Isles, $16^{\circ} 18'$; at St. John's, New Brunswick, 18° ; and Penobscot Bay, 15° W. Increasing about $5\frac{1}{2}'$ per annum.

I.—OF THE WINDS, CURRENTS, ICES, AND PASSAGES BETWEEN NEWFOUNDLAND, NOVA SCOTIA, NEW BRUNSWICK, ETC.

1. **WINDS.**—The Winds between Europe and America north of the parallel of 40° N. are very variable, and it may be said that no dependance can be placed upon its continuance in any quarter for any length of time, with this exception, that those from the west and south-west considerably predominate. From the great attention this subject has received of late years, both in England and America, such a mass of observations has been recorded, that it may be predicted what the mean duration of any wind be, but this of course cannot be applied to any single ship or voyage. This subject cannot be discussed here. Much will be found on it in our Atlantic Memoir, 1861.

At Dieppe, for the English Channel, the result of 15 years observation gives 229 days from western quarters, 132 from eastern quarters, and 4 or 5 of dead calm; or more particularly, 135 days between S. and W., 94 between W. and N., 71 between N. and E., and 61 between E. and S.

This ratio will be found to exist for some distance westward on the same parallel, but 20° further west the S.W. winds seem to be still more preponderating.

Near the east coast of Newfoundland the winds, during the winter months, appear to prevail from W.N.W., and also from the E. During the summer months those from S.W. also predominate. Calms are very prevalent in mid ocean during summer and autumn.

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GENERAL REMARKS AND DIRECTIONS.

Cyclones, or Hurricanes, are sometimes encountered on the Grand Bank, or its southern portion. These terrible gales, now disarmed of much of their danger, pass from the West Indies or tropical region in a general W.N.W. course, sometimes extending as far as the coasts of Europe, as was the case with the memorable hurricane, a cyclone, in which the *Royal Charter* was lost on the coasts of Wales on October 25th, 1859. Though in this case the meteor appears to have travelled from the S.W.

On August 17th, 1827, the Windward Islands in the West Indies were devastated by a hurricane, which swept over the tail of the Great Bank on the 29th, travelling at the rate of 11 miles an hour. Another travelled 1800 miles, from the Caribbee Islands to the Great Bank, between September 29th and October 2nd, 1830, at the rate of 26 miles per hour, carrying destruction over a vast area. The memorable hurricane of August, 1830, which ravaged the West Indies from the 12th to the 14th, reached the Banks on the 19th, its progress being at the rate of 18 miles an hour.

In the year 1782, at the time the *Ville de Paris*, *Centaur*, *Ramillies*, and several other ships of War, either foundered, or were rendered unserviceable, on or near the Banks, together with a whole fleet of West-Indiamen (excepting five or six); they were all lying-to, with a hurricane from E.S.E.; the wind shifted in suddenly to N.N.W., and blew equally heavy, and every ship lying-to, under a square course, foundered.

The indications of these storms by the barometer, and shifting of the direction of the wind are now so generally studied that we need not dilate on the subject here; it need only be remarked that in shaping the vessels course to avoid what may be approaching, it may be possible to take advantage of the hurricane in expediting the voyage, should the vessel be taken on the northern or southern verge of the rushing storm.

On our large chart of the Atlantic Ocean, all the observations of Captain Maury are embodied in a graphic form, by which the sailor can at once see what wind or calm he may look for.

PHENOMENA, WESTWARD OF NEWFOUNDLAND, as described by Rear Admiral BAYFIELD.—Among the difficulties of the navigation in the Gulf of St. Lawrence are the fogs and ices. In spring the entrance and eastern parts of the Gulf are frequently covered with ice, and vessels are sometimes beset for many days. Being unfitted for contending with this danger, they often suffer from it, and are occasionally lost; but all danger from ice is far less than that which arises from the prevalence of fogs. These may occur at any time during the open or navigable season, but are most frequent in the early part of summer; they are rare, and never of long continuance, during westerly winds, but seldom fail to accompany an easterly wind of any strength or duration. This observation is, however, subject to restriction, according to locality or season. Thus, winds between the south and west, which are usually clear weather winds above Anticosti, are frequently accompanied with fog in the eastern parts of the Gulf. Winds between the south and east are almost always accompanied with rain and fog in every part. E.N.E. winds above Point de Monts, at the mouth of the river, are often E.S.E. or S.E. winds in the Gulf, being changed in direction by the high lands of the south coast, and have, therefore, in general, the same foggy character. This is said of winds of considerable strength and duration, and which may extend over great distances. Moderate and partial fine weather winds may occur without fog at any season, and in any locality. In the early part of the navigable season, especially in the months of April and May, with clear weather, N.E. winds are of frequent occurrence, and they sometimes occur at other seasons, in every part of the Gulf and river.

The fogs sometimes last several days in succession, and to a vessel either running up or beating down, during their continuance, there is no safe guide but the constant use of the deep sea lead, with a chart containing correct soundings.

The fogs which accompany easterly gales extend high up into the atmosphere, and cannot be looked over from any part of the rigging of a ship. They however are not so thick as those which occur in calms after a strong wind, and which are frequently so dense as to conceal a vessel within hail; whilst the former often, but not always,

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The dense fogs which occur in calms, and even in very light winds, often extend only to small elevations above the sea; so that it sometimes happens, when objects are hidden at the distance of 50 yards from the deck, they can be plainly seen by a person 50 or 60 feet up the rigging. In the months of October and November the fogs and rain, that accompany easterly gales, are replaced by thick snow, which causes equal embarrassment to the navigator.

During the navigable season, the prevailing winds are either directly up or directly down the estuary of St. Lawrence, following the course of the chains of high lands on either side of the great valley of the river. Thus a S.E. wind in the Gulf becomes E.S.E. between Anticosti and the south coast, E.N.E. above Point de Monte, and N.E. above Green Island. The westerly winds do not appear to be so much guided in direction by the high lands, excepting along the south coast, where a W.S.W. wind at the Isle Bic has been seen to become West, W.N.W. and N.W. on running down along the high and curved south coast, until it became a N.N.W. wind at Cape Gaspé. These winds frequently blow strong for three or four days in succession; the westerly winds being almost always accompanied with fine dry, clear, and sunny weather; the easterly winds as frequently with the contrary, cold, wet, and foggy. In the spring the easterly winds prevail most; frequently blowing for several weeks in succession. As the summer advances the westerly winds become more frequent, and the S.W. wind may be said to be the prevailing wind in summer in all parts of the river and gulf. Light south winds take place occasionally; but north winds are not common in summer, although they sometimes occur. Steady north winds do not blow frequently before September, excepting for a few hours at a time, when they generally succeed easterly winds which have died away to a calm, forming the commencement of strong winds, and usually veering to the S.W. The N.W. wind is dry, with bright clear sky, flying clouds, and showers. After the autumnal equinox, winds to the northward of west become more common, and are then often strong steady winds of considerable duration. In the months of October and November the N.W. wind frequently blows with great violence, in heavy squalls, with passing showers of hail and snow, and attended with sharp frost.

Thunder storms are not uncommon in July and August; they seldom last above an hour or two; but the wind preceding from them is, in general, violent and sudden, particularly when near the mountainous part of the coast; sail should, therefore, be fully and quickly reduced on their approach.

Strong winds seldom veer from one quarter of the compass to another directly, or nearly contrary: in general they die away by degrees to a calm, and are succeeded by a wind in the opposite direction. It is not here meant that they may not veer to the amount of several points. N.W. winds seldom or never veer round by north and N.E. to east and S.E.; but they do frequently, by degrees, to the S.W., after becoming moderate. S.W. winds seldom veer by the N.W. and north to the eastward, but sometimes by the south to S.E. and east. Easterly winds generally decrease to a calm, and are succeeded by a wind from the opposite direction.

In the fine-weather westerly winds of summer, a fresh topgallant breeze will often decrease to a light breeze or calm at night, and spring up again from the same quarter on the following morning; under these circumstances only may a land breeze off the north coast be looked for. The same has been observed off the south coast also, but not so decidedly, nor extending so far off shore. Captain Bayfield adds, "I have occasionally carried the north land-wind nearly over to the south coast just before day-light, but have never observed the south land-wind extend more than five or six miles off, and that very rarely. Under the same circumstances, that is, with a fine weather westerly wind going down with the sun, a S.W. land-breeze will frequently be found blowing off the north coast of Anticosti at night, and during the early part of the morning. If, however, the weather be not settled fair, and the wind does not fall with the sun, it will usually prove worse than useless to run a vessel close in shore at night, in the hope of a breeze off the land. Such is the usual course of the winds in common seasons, in which a very heavy gale of wind will probably not be ex-

perienced from May to October, although close-reefed topsail breezes are usually common enough. Occasionally, however, there are years the character of which is decidedly stormy. Gales of wind, of considerable strength, then follow each other in quick succession, and from opposite quarters. The marine barometer, which is at all times of great use to the navigator, becomes particularly so in such seasons."

2. CURRENTS.—The Atlantic Ocean between Europe and the North American ports has been more frequently traversed than any other portion of the globe, yet the recorded observations upon the currents which have been encountered in these passages have not been either sufficiently accurate nor abundant to afford an exact notion of the movements which are undoubtedly constant, and attended with great climatorial results. The seaman has only to attend to the one element of the surface drift as affecting his course, and therefore it will not be necessary here to allude to any other features of the ocean currents.

The generally accepted view of the currents in this part of the ocean is:—that the Gulf Stream, which passes northward along the coast of the United States, having been deflected eastward on reaching lat. 35° to 40° , passes to the E.N.E., south of the Grand Bank, and finally reaches the shores of Northern Europe.

Besides this warm water current, the Arctic or Labrador current passes southwards down the Labrador coast, encountering the Gulf Stream on the Grand Bank, passing underneath it, and also drifting as a cold water stream inside the Gulf Stream as far southwards as Florida.

Upon a careful discussion of all obtainable observations, it may be deduced that this general view requires some modification, and that the Gulf Stream does not reach the European shores as an independent current, but it must also be repeated that we are not yet in a position to exactly define its progress.

Gulf Stream.—The mean annual velocity, which will be the best guide for the mariner, of the Gulf Stream in the offing of New York is about 45 miles in the 24 hours; south of Nova Scotia, in lat. 40° , it is 36 miles per day; south of Newfoundland it is not more than 28 miles per day; and having reached the meridian of 40° W. it does not exceed $16\frac{1}{2}$ miles per day. Its independent velocity thus appears to be nearly lost, either from the neutralizing effects of the Arctic current or from its force being expended. This latter view is borne out by the fact that the still further western drift does not vary from that of the waters either to the north or south of what must be the central line of the Gulf Stream waters. This rate and velocity seems to be nearly equal over the whole of the eastern half of the ocean, namely, to E. by N. at 9 to 12 miles per day. It is this extensive drift, doubtless impelled by the prevalent W. and S.W. winds which bring the warmer waters of the tropical regions to North-western Europe, and cause that amenity of climate in such marked contrast to that of the opposite coasts of America.

Respecting the northern limits of the Gulf Stream at the south limit of the Great Banks and Newfoundland, no exact line can be drawn, as this margin is a constant struggle between the Polar and Tropical waters, which are mixed and varied in a very extraordinary manner. As a general guide, however, the strong easterly current of the Gulf Stream will be found at some distance south of the tail of the Great Bank during the winter months, and during the summer season this northern edge extends up to and over the south end of the Bank.

From a number of bottle experiments which have been collected and recorded in the Atlantic Memoir, and by Captain A. B. Becher, R.N., it is found that these floating messengers travel from the meridian of Newfoundland to the British Isles and the French coast at the mean rate of $8\frac{1}{2}$ to $12\frac{1}{2}$ miles per day between latitudes 45° and 50° N., and about $5\frac{1}{2}$ miles per day between latitudes 50° and 55° N., a rate which is tolerably uniform.

There is only one other point which need be noticed here relative to the Gulf Stream, which is that between the meridians of 48° and 50° West longitude. The Labrador current is so powerful that it runs much further southward into the general eastern current, and has been found to be remarkably permanent, so that a ship sailing

on the parallels 41° to 43° might be misled by the great decrease in the temperature if the latitude were not accurately known.

The Labrador Current.—This cold ice bearing current, which apparently is the great outlet for the Arctic waters, passes down the coast of Labrador at from 12 to 24 and 36 miles per day, and with the wind, at even greater velocity. It does not appear to extend to the westward of the meridian of 40° W., and, as has been above stated, it meets the northern edge of the Gulf Stream, probably passing under it and mingling its waters in an intricate manner with the warm tropical waters brought by that mighty current. A branch of it enters the Gulf of St. Lawrence through the Strait of Belle-Isle, and it turns to the westward around Cape Race, and skirts the whole of the American coast nearly to Florida; a cold stream inside the warm Gulf Stream, the two being separated in some parts by a nearly perpendicular line.

In our Atlantic Memoir many details and arguments are given upon this singular phenomena, now well known, which cannot be repeated here.

It is probably to these two currents meeting, and to some extent neutralizing each other, that the formation of the extensive banks of Newfoundland and Nova Scotia is owing.

From the warmer waters coming over the Grand Banks and the cold air passing over their surface arises those fogs which are so exceedingly common, and so embarrassing to the navigator. The necessity for observation is also much enhanced by the devious and uncertain currents, which it is manifest, from what has been said above, will be encountered.

It is to this cause that the S.E. coast of Newfoundland, especially the little bay of St. Shot's, between Cape Freels and St. Mary's Bay, obtained such a notoriety some few years ago, prior to the establishment of the lighthouses which now mark the prominent points, which, with the caution induced by these disasters, have almost removed this source of danger.

The following are a few of the particulars of some of those wrecks, more largely entered into in former editions:—

The British frigate, *Tweed*, on her passage to St. John's Newfoundland, struck upon the coast, near Cape Spear, and was wrecked in the night of the 5th of November, 1813. This event, most probably, was the effect of an unknown current setting south-westward, toward Cape Race.

Besides this may be enumerated the loss of the sloop *Comus*, the transport *Harpooner*, H.M. ship *Drake*, the brig *Spence*, and the *Marshal Macdonald*, all of which were lost, at different times, upon one spot; the little bay, called *St. Shot's Bay*, on the south coast of Newfoundland, and lying between Cape Freels and St. Mary's Bay. The particulars of all these melancholy events are detailed in the following paragraphs.

The *COMUS* was lost in the night of the 24th of October, 1816, at the entrance of St. Shot's Bay. At ten o'clock, it was supposed "they were on the inner edge of the Green Bank; sounded, and found that they were in 25 fathoms of water, the exact depth on that bank as laid down in the Admiralty charts. At forty-five minutes past eleven, struck on a reef of rocks, extending from the eastern head of St. Shot's Bay, into the sea, owing to the *amazing indraught into the different bays*, and which threw the ship out of her reckoning. Every exertion was used to save the ship, but in vain. At the same time, the weather was so foggy that little more than half the ship's length could be seen."

The *HARPOONER*, lost at St. Shot's Bay.—The *Harpooner*, which was lost on the 10th of November, 1816. On the 26th of October, detachments of the 4th Royal Veteran Battalion, with a few belonging to other corps in Canada, in all 380, embarked on board this ship, and sailed from Quebec for London, on the 27th. On the passage to the Gulf of St. Lawrence, moderate weather and favourable winds prevailed; but, on arriving in the gulf, the weather proved boisterous, and the wind contrary. Not a sight of land, nor an observation of the sun, could be depended on for several days. On Sunday evening, November 10, at a few minutes after 9 o'clock,

GENERAL REMARKS AND DIRECTIONS.

the second mate, on watch, cried out, "*The ship's aground!*" at which time she lightly struck on the outermost rock of St. Shot's. She soon fell over on her beam-ends, and the dreadful consequence may be readily imagined. We cannot attempt to describe it.

It is worthy of particular notice, that the two wrecks occurred within three weeks of each other; and it is an extraordinary coincidence that they should happen upon the same spot. Can we doubt that they were produced by similar causes?

After the publication of these lamentable particulars, it was hardly to be expected that similar events were again to occur on this fatal spot; but the melancholy loss of his Majesty's ship *Drake* will long be remembered.

H.M.S. *DRAKE*, lost at St. Shot's.—The *Drake* sailed from Halifax on Thursday morning, the 20th of June, 1822, for St. John's, Newfoundland. The weather being uncommonly fine, and the wind favourable, she continued to steer a direct course for Cape Race: on Sunday morning it came on extremely thick, with a fresh breeze from W.S.W.; at noon it cleared up for about a quarter of an hour, just giving time to get a good observation of the latitude, which agreed very well with the latitude by account. At the time we supposed ourselves, by our reckoning, to be 90 miles from Cape Race. At six in the evening, having run about sixty miles since noon, and finding the fog still continued, we hauled out four points, intending to have steered S.E. during the night; about half-past seven o'clock, all hands being on deck, breakers were reported to be a-head; the ship was instantly hauled to the wind; but, not being able to clear the danger on that tack, we endeavoured to stay the vessel; but, from the heavy sea, and whilst in stay, her stern took the breakers, and she immediately fell, broadside on, the sea beating completely over her; the masts were immediately cut away, with the view of lightening the vessel, as well as affording a bridge to save the crew, but without success in either point; for in a few moments, she bilged, at which time there did not appear the slightest hope of saving a man. But forty-four out of fifty of the crew landed on the rock, succeed in gaining the main; which they afterwards discovered was the eastern head of St. Shot's.

The *SPENCE*, lost at St. Shot's.—The brig *Spence*, of Sunderland, 305 tons, M. Wilson, master, from Richibucto, bound to Liverpool, with lumber, was totally lost near St. Shot's, on the 16th of July, 1822, at four in the evening: but the crew were saved, and arrived at St. John's.

The *MARSHAL MACDONALD*, lost at St. Shot's.—The *Marshal Macdonald*, a vessel with fifteen hands and a passenger, sailed from Quebec on the 8th of November, 1835. In the night of December 2, off the island of St. Paul, she shipped a sea which carried twelve persons overboard, of whom three perished, and all were nearly suffocated by the sea passing over them. Next morning the mate, carpenter, and cook, were seen on deck, frozen to death. The vessel was now totally water-logged, and entirely at the mercy of the sea. On the night of the 7th of December, the vessel was driven upon the fatal rocks of St. Shot's Point, and in this struggle for life three others perished.

The five vessels, it may be seen, were all from the *westward*, and all, it may be presumed, were set to the *northward*, as well as to the *westward*, of the situations which they were supposed to occupied, and the route which each intended to pursue. They can be accounted for only by the supposition of the currents winding round the coast, opposing each other, and operating as above explained.

CURRENT from the GULF of St. LAWRENCE.—It has been already shown that the waters of the St. Lawrence run off partly to the S.W. from Breton Island; so that here, likewise, allowance for a westerly set is to be made: for, as Mr. Darby, the superintendent of the island, has said, "On the South side of SABLE ISLAND, the *Current*, in shoal water, with prevailing South and S.W. winds, sets rapidly eastward, until it reaches the end of the N.E. bar. It then unites and blends with the St. Lawrence Stream, which passes the Bar in a S.S.W. direction, and runs strongest in April, May, and June. I have sufficient reason for believing that the Gulf Stream, on the parallel of 42° 30', running E.N.E., occasions the St. Lawrence Stream, then running S.S.W., to glide to westward. The strength of this stream has never been

noticed, and three-fourths of the vessels lost on Sable Island have been supposed to have been to the eastward of the island, when, in fact, they were in the longitude of it."

The effects of currents off the South and S.W. coasts of Newfoundland, may still, it appears, without great precaution, prove fatal to many vessels. "It seems," says Mr. Jeffery, "to be impossible to make a sure allowance for them; for while allowing for them in one direction they may be setting on the opposite one. The lead appears to be the only thing of any advantage. During three weeks, while we were on this coast, we had the wind from all points, and all brought thick hazy weather and rain."

ICE.—One of the great dangers to which a ship, and especially a steam-ship, is liable in her passage across the northern part of the Atlantic, is the ice which is drifted down from the Arctic regions by the Labrador and Greenland Currents into the northern edge of the Gulf Stream, at times as low as to latitude 39°, especially during the months of April, May, and June.

These masses of ice, in the form of immense bergs, sometimes several hundred feet high and of vast extent; at others, of immense fields of closely compacted pack ice, come from the Arctic regions, and are set adrift at the breaking-up of the winter. The bergs come from the northern parts of West Greenland, and the drift or pack ice from all parts of the Arctic regions and Spitzbergen.

Many examples are cited in other works of the appearance and accidents caused by ice. In the spring of 1859 they were peculiarly abundant, and one of the Cunard line, the *Canada*, struck one, but from the fact of her having a bowsprit which broke the shock, she escaped uninjured.

One of the most remarkable facts in respect of these drifting masses, is that of the two deserted ships which were seen high and dry on a floating mass on April 23rd, 1851, by the *Renovation*, in about lat. 47° N., long. 50° W. The description of these two vessels applied in all particulars with that of the lost ships, the *Erebus* and *Terror*, of Sir John Franklin's expedition. There can be no doubt about the truth of the statement, and the whole subject is one great mystery, notwithstanding the efforts which have been made to apparently settle this question.

In our Atlantic Memoir will be found many details of these ices, and the circumstances under which ships have been lost, damaged, and endangered by them, and we particularly recommend to notice the important remarks of Lieut. Evans, R.N., given in that work.

The following remarks are the condensation of what has been written on this subject.—

"ICE-BERGS and ICES.—In the season between March and July, those vast masses of ice and tremendous ice-bergs, which descend with the current from the north-western regions, are found upon and to the eastward of the Newfoundland Bank, sometimes even to the parallel of 40° North.

"The indications of an ice-berg are.—1. A natural effulgence, which frequently renders them visible, at some distance, even in the darkest night. At a short distance this effulgence may appear like a white cloud, extending over, or nearly over, the vessel's masts.

"2. A considerable decrease in the temperature of the water, as shown by the thermometer, in comparison with the heat of the adjacent sea and with the air above.

"The roaring of the sea at the base of a berg, which, excepting in a steamer, with its paddles in action, may be heard, by an attentive listener, when afar off.

"To fast sailing vessels and steamers in particular, these monitions may be useful. Such will, therefore, in the season, avoid the higher parallels of latitude, as prudence may dictate." A lengthened course, on a southerly parallel, between the meridians of 42° and 56° may insure safety.

The *Ice-blink*, or effulgence of light emanating from, and seen over, congregated

ices,—the formation of ice-bergs,—and the general phenomena of the Northern Ocean,—are copiously described in our "Memoir" and nautical Instructions for that Ocean, pages 43 to 61.

PASSAGES FROM ENGLAND, &c.—On referring to our Chart of the Atlantic Ocean, it may readily be found that, from the Land's End of England to St. John's, Newfoundland, the true bearing is W. 4° S.; and from the same point to Cape Sable, or the S.W. end of Nova Scotia, it is about W. 9° S., by Mercator's sailing. But the circumstances of Navigation, in general, render a direct course more tedious and difficult than a circuitous route; and the best passages have been made by pursuing a high northerly course.

The great circle or shortest route also favours this principle, for the shortest distance between the Land's End and St. John's Newfoundland, about 1828 miles, passes through latitude 51° 30', and longitude 23° 44' W., or 125 miles further north than the apparently direct distance by the chart, so that if a vessel were to reach latitude 53° 40' on this meridian, she would not have to travel over more distance than if she sailed on a rhumb course.

Besides this it seems probable, from all that we have said on the Winds and Currents, that, on prosecuting a north-westerly course, which approximates to the great circle course, from the Bank of Channel Soundings, the winds and currents, respectively, may counteract and balance each other; that, on a farther prosecution of the same course, the winds will be found less westerly, and therefore more favourable, than in the more southerly parallels: and that, in advancing toward the mouth of Davis's Strait, the advantages both of wind and current may be combined.

Caution must be taken not to advance too near the Eastern coast of Newfoundland, if bound to New Brunswick or the Southern ports; nor to the Eastern coast of Breton Island, as here the vessel may be swept round by the strong westerly currents, which have been described, and which, when understood, instead of producing mischief, may prove highly advantageous in facilitating the ship's course.

The propriety of these arguments has been confirmed by experience, in one hundred and four passages made to and from New Brunswick, &c., by Lieutenant Chas. Hare, of the Royal Navy, of which the last was in the year 1842. Annexed is a copy of that gentleman's communication.

"Ships from Scotland, in the spring of the year, and bound to New Brunswick, have always arrived sooner than those from the English Channel, which is attributed to their being more to the northward on leaving the land.

"Ships from Liverpool generally arrive before those which sail from the English Channel, the cause being the same.

"In the **SPRING** of the year, I would never go to the southward of latitude 40° or 47° until I reached longitude 37° or thereabout; then edge to the southward as far as latitude 43° in order to avoid the ice-bergs, keeping a very strict look out; this parallel (43°) I should endeavour to preserve, or nearly so, but nothing to the southward, until up to Cape Sable, Nova Scotia; for it carries you to a safe and proper distance from Sable Island, a place that cannot be too much dreaded. In this track you will be without the northern edge of the Gulf Stream, and assisted by a south-westerly current from the banks until past that island.

"In the **FALL** of the year, my track is far more to the northward than the spring. On leaving the land as late as the middle of October, or thereabout, I generally steer to the north-westward until I get as far north as 55°, and until I enter the longitude 30°, then edge to the southward, to enter the Banks in latitude 46°, shaping again a course to pass about sixty miles to the southward of Sable Island, as above. If bound to Halifax, and very sure of my latitude, I might be tempted to pass to the northward of Sable Island; but, at all events, it would be at a great risk; and I should not, under any circumstances, recommend a stranger to attempt it; as the weather is mostly foggy, and the set of the currents unaccountable. The soundings on Banquereau are incorrectly laid down in every chart that I have yet seen; being, in fact, within one hour's sail of the N.E. Bar of Sable Island; from which cause I

once very narrowly escaped shipwreck. Numerous gannets are always hovering about this island, and are very excellent indication of your near approach to it, particularly on the South side.

"By crossing the Banks thus far North, you will find the advantage as you approach the longitudes of Newfoundland and Nova-Scotia: the strong N.W. and North gales having then commenced, you will frequently be compelled to lie-to for two or three days: and should then insure sufficient drift, before you are blown into the strong influence of the Gulf Stream; which would be the case at a few degrees to the southward, and inevitably in a S.S.E. direction, at an inconceivable rate. Last November (1824) the case occurred: the vessel being hove-to, under main topsail and storm trysail, to the westward of the Banks, in latitude 45° , and was, in four days, swept into latitude $39\frac{1}{2}^{\circ}$, consequently into the Gulf Stream; when the longitude became also considerably affected, and I took the first opportunity of making a N.N.W. course, to get out of it as soon as possible.

"To prove the advantage of a northern track, late in the fall of the year, I may see that I have, in one or two instances, read, in the American newspapers, the accounts of very long passages experienced by ships which met heavy gales in the latitudes of 35° and 38° , when several vessels were disabled, and others suffered loss of sails; yet, on the same day, in latitude 54° , I had moderate weather from the N.N.E. with top-gallant studding sails set; which strongly encourages me to believe that the blowing weather, incident to approaching winter, commences southerly, and inclines northerly as the season advances, and not the reverse; an hypothesis generally formed by English ship-masters, but in my opinion, certainly erroneous.

"I am farther of opinion that the influence of the Gulf Stream, in the parallels from latitude 35° to 42° , whether from the warmth of the water or other natural causes, has a strong tendency to attract the wind from a western direction; as I have invariably found the wind more alterative in the northern latitudes before-mentioned than the southern ones; and it unquestionably must be allowed, by all mariners of any observation, that gales experienced in the Gulf Stream, or its vicinity, blow with much greater violence than they do in that part of the northern Atlantic not under its influence: besides, the squalls from the southward or S.W. are much more sudden and heavy, and near the Banks they are attended with dangerous lightning. The thermometer (an instrument easily understood) is of the greatest importance for ascertaining your approach to it; and, if bound to the West, I would, for my own part, endeavour to avoid its effects as cautiously as I would a lee-shore: for it may be depended on, that no ship, however well she may sail, will effect westing in the Gulf Stream with a wind from that quarter; and it is to be remembered that its velocity is accelerated according to the strength of those winds, and its extent in breadth, at a few degrees to the westward of the Azores, is many more degrees than is commonly supposed.

"These observations, I hope, may be useful to my brother mariners engaged in these voyages; and permit me to say, that they are grounded on the experience of at least one hundred times crossing the Atlantic, in his Majesty's and the merchant service, and in the command of vessels in both; at one time, in one of nearly four hundred tons burthen, the *Waterloo*, owned in St. John's, New Brunswick; and, as the Custom Books at Liverpool can testify, landed four full cargoes in thirteen following months; which, including the time required to discharge the same, then loaded outward to St. John's, there discharge and load home again, leaves but very little time for the ship to cross the Atlantic eight times in fourteen months, which, in fact, was done.

"Still further, in corroboration of my approved northern track, allow me to observe that, in the fall of 1823, by keeping in a high latitude, the brig *Ward*, myself master, also owned in New Brunswick, performed a voyage out and home in seventy-two days. The same vessel likewise, on the 3rd of October, 1824, left the English Channel, and arrived again in the Downs on the 3rd of January following.

"I must add, that a strong well-found and well-manned vessel alone can perform these voyages; for they must be maintained with unremitting attention and perseverance.

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"The necessity and propriety of the above remarks was particularly exemplified by the *Ward*, which, on her passing through the Downs, in 1824, left ships there which were bound to the westward, weather-bound, and found them there on her return, having been driven back by adverse winds; while she, getting out of the Channel, performed with ease a prosperous voyage to St. John's, New Brunswick, and back, exactly in three months, assisted by chronometer, thermometer, &c.

"In the month of June and beginning of July, and sometimes later, the ices from the Arctic Seas are frequently coming down from the northward in dangerous masses. In the same season the fishing vessels are very numerous upon the Bank, on and about the parallel of 45° N.; consequently, vessels bound to the eastward, from Nova Scotia, &c., will avoid both, and most safely cross the Grand Bank at this time of the year, by keeping in, or not proceeding to the northward of, latitude 44° ."

The preceding remark, by Captain Hare, has been enforced by the pen of an intelligent writer, "*Atlantica*," who has said,

"Although the voyage to and from North America, between the parallels of 60° and 40° , has always been attended with a degree of peril, from masses ice which drift to the southward, during the summer months from the polar regions, yet many an unwary mariner makes his run across the Atlantic without any apprehension of meeting these floating dangers, or without sufficiently exercising a proper discretion and vigilance to guard against coming in collision with them. This is not mere conjecture, but the information of persons who annually perform the voyage, beside the result of my own observation, in accidents which have repeatedly occurred to vessels between Newfoundland and England, and in the number of missing ships on this route. Commanders of ships should therefore bear in mind the imperative necessity there is for using their utmost vigilance and attention when crossing the above-named parallels, especially between the meridians of 30° and 60° West, to guard against coming in contact with these formidable dangers of the ocean.

"The *New York Packet ships*, well supplied with every essential equipment, and elegantly fitted for the accommodation of passengers, when making their winter voyage from Liverpool, keep in high latitudes until nearing Newfoundland. This they do for the two-fold object of avoiding the tempestuous weather so generally experienced to the southward, and of obtaining fairer winds: and thus, by slipping within the mighty stream from the Florida Channel, they evade its retarding influence. The voyage by this route is shortened; and, although bad weather must be expected, it is not so violent as farther south; besides which, the eastern current is avoided. I believe it is an unusual thing to meet with ice in this part of the Atlantic in the winter; but we have instances to the contrary, so that a look-out should be kept in that season, as well as in the summer, by vessels making the voyage.

"From all accounts it seems that the greatest danger is to be apprehended in the vicinity of the Banks of Newfoundland; and this, as every navigator knows, is increased by a dense fog which generally pervades the atmosphere in that quarter, and, of course, shortens the distance of vision to a very circumscribed limit."

GULF OF ST. LAWRENCE, &c.—Those bound to the Gulf of St. Lawrence, after, passing to the southward of the Virgin Rocks, on the Grand Bank and the Island of St. Pierre, should keep a middle course between Newfoundland and Breton Island; not forgetting what has been heretofore said on the Winds and Currents; recollecting, also, that the harbours on the coast, westward of Fortune Bay, are impeded with dangers; there are many rocks about the entrances, and most of the harbours are imperfectly known. The rocks are not to be seen in thick weather, and fogs very much prevail on the coast.

Commanders bound to the Gulf will do well to observe that, off the South Coast of Newfoundland, between the meridians of 55° and $55^{\circ} 35'$, and the parallels of $45^{\circ} 10'$ and $46^{\circ} 15'$, is a deep gully in the sea, extending in a N.N.E. and S.S.W. direction, and separating the Bank of St. Pierre from the Green Bank. The method adopted by the French vessels bound to St. Pierre, for making that island, is as follows:—

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From the longitude of 52° W., in latitude 45°, they steer N.W. course (by compass) which carries them across the Green Bank, in about 43 and 44 fathoms of water; and when on the meridian of 55° 15', in about 45° 47' N. they suddenly deepen their water from 40 to 80 fathoms. A farther run on the same course, of about ten miles, carries them across this gully, when they shoalen their water again to 35 and 30 fathoms; and, after a farther run of 23 miles, they steer about N.N.E. directly for the island, and seldom or never miss it. (*See the Chart.*)

Those who have lost their reckonings, on finding this gully, which may be known by the water shoaling on the east and west sides of it, an experiment that is frequently made for ascertaining whether they are actually in it or not, may safely take it as a *fresh departure*. Commanders, not being aware of it, when they have found their water deepen from the Green Bank to the westward, have imagined themselves entering the Gulf of St. Lawrence; and, by steering a course too far to the northward, have been lost to the eastward of Cape Ray, on the rocks of Newfoundland. The length of the gully is about sixty miles, in a N.N.E. and S.S.W. direction (by compass), and the middle of it is in latitude 45° 35', and longitude 55° 20'.—*Communication of the French Commandant to Captain Sir Richard Grant, R.N., 1833.*

The little island of St. Paul, which lies to the north-eastward of Cape North, now distinguished by its lighthouses, is bold-to, steep, and high; and, with a good look-out in the day-time, cannot be considered as dangerous even thick weather. The land of Breton Island is very high, and though fogs are about it frequently, it is seldom so much obscured as not to be seen in time. On entering the Gulf, the Magdalen and Bird Islands will be seen, as they lie in the direct course from Cape North to the River St. Lawrence.

There is, in clear weather, a safe passage between the Bird Islands and the Magdalens; but, in thick weather, it is advisable to keep either to the southward or northward of both, as the wind may permit.

In Pleasant Bay, on the S.E. side of the Magdalen Islands, there is a clear and good anchorage, very near the shore; and it is a very safe place for vessels to ride in, with a westerly wind, and infinitely preferable to beating about in the Gulf with a foul wind. There is a safe passage into it between Amherst Island and Entry Island, as fully explained hereafter.

As the weather to the southward of these islands, between them and Prince Edward Island, is generally much clearer than on the North, the passage that way is preferable, particularly after the early part of the year, when S.W. winds mostly prevail.

Steamship Routes.—Specific tracks for steam vessels between the British Isles and the northern ports of America have been calculated and recommended by Captain Maury in 1855, at the suggestion of R. B. Forbes, Esq., of Boston, U. S. This suggestion arose from the great increase of the steam traffic between the two continents, and from several dreadful collisions having occurred, especially that of the U. S. Mail Steamer *Arctic*, in October, 1854. The proposition, as is now well known, is, that ships going westward should use one track as near as possible; and those going eastward, another lying to the southward of the former.

The name *steam lanes* has been proposed for them, a term which, denoting an an enclosed road or path, is not strictly applicable. They are intended, as said above, to avert the chances of collision between steam vessels passing in opposite directions, and to secure a line along which steam vessels alone are to pass. The adoption of these lanes will simply lessen the *liabilities*, by diminishing the chances of *collision* (in fogs, or at night), and to that extent make the navigation of the Atlantic less dangerous.

The direction of the proposed track from Europe to all the northern ports of America, about the great circle track to the middle of the Grand Bank, or to the intersection of latitude 44°, with longitude 55° W., and then diverging toward the destined ports. Thus avoiding the effects of the Gulf Stream.

The track from America to Europe lies to the south of this, or nearly the great

circle track from C. Clear to latitude $42\frac{1}{2}^{\circ}$, longitude 52° , keeping much to the southward of the westward route.

These tracks are distinctly marked and graduated on our new chart of the North Atlantic, and need not be more particularly described here.

Upon this subject Admiral FitzRoy writes:—

"Another question appears to require notice in these pages, because it is still a 'moot point' with many persons interested in navigating the Northern Atlantic. In a well-known publication Maury particularly recommended 'Lanes for steamers.'

"If steamers could always steer direct courses, being full-powered, and not liable to headed off in occasional heavy seas, such an arrangement might be advantageous; but as it is otherwise, and as screw (auxiliary or mixed) ships sail while steaming, they cannot conveniently keep to prescribed 'lanes,' however desirable it might otherwise seem.

"However, as the traffic increases between Europe and America, some special arrangement may be required, even more urgently than now; in which case it might perhaps be found practicable to consider an imaginary line, from latitude 50° and longitude 20° to the crossing of 45° N. and 55° W., the 'line of separation,' northward of which should go all vessels bound to the westward, and south of it all those heading to the eastward.

"A great safeguard would be legislative enactment against high speed during fog, heavy rain, or snow:—authorising a majority of passengers to make objection; to inspect, note, and sign the log, before disembarking; and, by a quorum, to give subsequent evidence."

II.—THE ISLAND AND BANKS OF NEWFOUNDLAND.

GENERAL REMARKS.—NEWFOUNDLAND is, in general, a variegated and rugged country. The shores are indented by broad and deep bays entering from forty to fifty miles into the body of the island. The western coast is generally rugged and lofty, but the eastern side of the island consists principally of low hills. The climate is humid, and especially disagreeable on the setting in and breaking up of winter, and when the fields of ice, which float from north to south during the months of April and May, are near the coast, and the wind is from seaward. The heat in summer is often very great. There are tracts of alluvial soil along the banks of the rivers, but, from the nature of the climate, agriculture will always be a secondary branch of industry, as the fisheries on the coast are a more profitable pursuit than the cultivation of an inhospitable soil.

In the solitary tracts of the island the most perfect silence prevails. At times the wind falls to a calm, and the sky appears cloudless. At such a time the *Aurora* by night appears occasionally in all its splendour, and its rays appear to proceed, not from any point in the north, but shooting upward at right angles to the surface of the earth. The effect of this exhibition in the sky is reflected in the still waters with majestic brilliancy.

It is generally supposed in England that Newfoundland is constantly enveloped in fog and wet mist; nothing, however, can be farther from the truth. The summers are frequently so hot and dry, that from want of rain the grass perishes; the summer of 1840 was one of these;—and the nights are usually splendid; whilst, in winter, fog is very rarely seen.

Winter may really be said to commence here toward the latter end of November only; the fires are comfortable adjuncts during most of that month, and its severity begins after Christmas, runs through January and February, and becomes less and stern until the middle of April, when it ceases altogether.

The inhabitants are for the most part dependent for provisions upon importation. In fact, if it were not for the fisheries, the island would not probably be settled at all; and as it is, large numbers resort to it only during the fishing season, and leave it

during the winter. The settlements are all upon the coast, the grand occupation of the population being exclusively in the fisheries, and in those branches of industry connected therewith. The peninsula of Avalon, on the S.E., which is united to the main body of the island by a low isthmus little more than three miles wide, is the chief seat of the population, the settlements on the other coasts being few and far between, and of little individual importance. In these latter settlements, from their little intercourse with each other, the character of each is singularly diversified, preserving traits of their origin as distinct as if they had been formed yesterday. The original settlers were either from Jersey, England, Scotland, Ireland, or France, and their habits vary accordingly.

At the close of the war in 1814, the prosperity of the British Bank fishery was unprecedented. The exports in that year being £2,831,538. After this the Government conceded to France her extensive rights of fishing, and in 1847 the British exports of fish and oil had sunk to £550,269, which amount was still decreasing. In 1855 it was less than £400,000.

The seal fishery commenced in 1793, it begins from the 1st to the 10th of March; and in 1847 employed 340 vessels, and 10,805 men, who caught 455,180 seals, value £214,175, in six weeks.

The CITY OF ST. JOHN is the principal settlement, and the only considerable town in the island: it is the seat of government, and the bishopric, and chief harbour for the British vessels. Explicit directions for entering are given hereafter.

The disastrous year of 1846 was the most eventful period of the history of this city. On the morning of the 9th of June a fire broke out which destroyed nearly the whole of the houses, except a portion of the suburbs, 2000 houses were destroyed, and 12,000 persons made houseless. On the 19th of September following another fearful calamity occurred; a furious hurricane swept over the whole country, devastating both sea and land. Much distress necessarily followed, which was relieved by the mother country, as well as by individual sympathy.

The city consists of long, irregular, and in some places very narrow, streets, the principal one being called Water-street, which has been much improved since its re-erection. Duckworth-street is the next great parallel to Water-street; and there are several lateral streets. It stretches for about two miles along the harbour, and the ground rising about 120 feet from the sea, causes many of the side streets to be inconveniently steep. The principal peculiarity of the city is its multitude of wharfs and fishing stages which line the shore. The city contains 15,000 inhabitants.

CONCEPTION BAY, to the north-westward of St. John's, is the richest and most populous country district in the island, containing, altogether, about 30,000 inhabitants, who are distributed in a number of villages or fishing and agricultural hamlets. Upon the small island, named *Bell Isle*, in this bay, wheat flourishes and ripens well; as do potatoes, oats, hay, and vegetables. This spot is, therefore, considered as a nursery garden for the neighbourhood.

Toulinguet or *Troilingate*, in the *Archipelago of Exploits*, is the most northerly British settlement in the Island.

THE NEWFOUNDLAND BANKS, which have been, in their fisheries, the source of all the opulence in the island, are vast submarine elevations, of various depths and very unequal figures, as shown by the Chart. The depths on the Great Bank vary from 15 to 80 fathoms. The quality of the bottom varies considerably, but it generally consists of sand, or sand mixed with shells and gravel, rarely with stones. The eastern face of the Bank is a clear sand, white or whitish, and often sparkling. In the gullies and deeps which separate the banks, and more particularly in the *Whale Deep* or *Trou de la Baleine*, the bottom is found to consist of mud or ooze with a fetid smell, and abounds with different sorts of fish; but more particularly with cod, which is inconceivably numerous; for, although from 200 to 400 vessels have been annually freighted with this article of commerce for nearly two centuries, there appears to be no sensible decrease of the former plenty. A great swell and thick fog usually indicate the place of the bank.

The cod are usually most abundant where the bottom is sandy; and the least so

where it is muddy. The best depth for them is between 30 and 40 fathoms, or less water. In the months of February and April, the fish, which in the winter retire to the deepest water, come on the banks, and fatten quickly.

The great fishery generally commences on the banks about the 10th of May, and continues until the end of September. Towards the middle or end of May the first shoal of herrings, called by the natives, spring-herrings, appear on the coasts. These are caught in nets and used as baits. In the middle of June, the capelin, a delicate species of salmon, come in, and last till the middle of July, and with them commences the height of the fishery. Towards the end of July and beginning of August the capelin leave the shores, and the young squids or cuttle-fish succeed them in myriads, and supply their place; and when these are over, they are succeeded by the fall-herrings, or the autumnal herring shoals. This is in September, and is the close of the fishery.

NOTE.—“In Mr. McGregor’s work, entitled ‘British America,’ 2 vol. 1832, is given a copious description of the mode of fishing on the Banks, the method of curing, &c., as shown also, in the ‘Nautical Magazine,’ June, 1832, page 190.—See also Juke’s ‘Excursions in Newfoundland,’ 1842, vol. i., page 228, and Bonnycastle’s ‘Newfoundland in 1842,’ vol. ii., page 160.

“By the Treaty of Utrecht, 1713, the French retained the liberty of fishing off the coasts, and of drying their nets on the shores of Newfoundland, within certain limits; and, by the treaty of 1763, they may also fish in the Gulf of St. Lawrence, but not within the distance of three leagues from any of the coasts belonging to Great Britain.

“By the treaty of 1783, it was defined that, the subjects of France were to enjoy, under the restrictions of the previous treaties, the fisheries on the eastern, northern, and western, coasts of Newfoundland, from Cape St. John to Cape Ray; and this concession was confirmed by the treaty of 1814. This last concession was the subject of much attention in Newfoundland in 1859. The French authorities having asserted that their rights were *exclusive*, and the French admiral warned the inhabitants of St. George’s Bay, on the West coast, to leave it before the next fishing season. This was resisted, and a joint commission was appointed by the two governments to investigate and settle the question.

“By convention with the UNITED STATES, of the 20th of October, 1818, the people of the said States, renouncing previous claims, have, for ever, in common with British subjects, the liberty of *taking fish* on the southern coast, between Cape Ray and the Ramea Isles, and on the western and northern coasts, from Cape Ray to the Quirpon Isles; also on the shores of the Magdalen Islands, and on the coasts, bays, harbours, and creeks, of Labrador, from Mount Joli through the Strait of Belle-Isle, and thence northward, indefinitely, along the coast, but without prejudice to the exclusive rights of the Hudson’s Bay Company; and the fishermen of the United States have liberty, for ever, to dry and cure fish in any of the *unsettled* bays, harbours, or creeks, of the southern parts of Newfoundland, above described, and of the coast of Labrador, but so long as unsettled only, without previous agreement with the inhabitants, &c.”

There are, generally, in the spring, within 125 or 130 leagues of the land, and between the Outer and Grand Banks, numerous ice-bergs, or ice-islands, that float down with the current from the north-westward, and which, during the foggy weather, are very dangerous: even in the months of June, July, and August, there are frequently a number of them: some of which may be seen aground, in 40 or 50 fathoms of water. In thick weather, the place of these may commonly be distinguished by the *ice-blink*, a brightness of the sky above them; or by the breaking of the sea against them, which may also be heard at a considerable distance; or by the decrease of the temperature of the water, as shown on page 7.

On approaching the banks, there will generally be found a number of sea-fowls, as *malimauks*, *roaches*, and *divers*. The last-mentioned are seldom found at more than 30 leagues from the banks; but *malimauks*, and several other kinds, are frequently

seen during the whole passage; although not so numerous elsewhere as in the vicinity of the banks.

VIRGIN ROCKS.—In approaching toward Cape Race (the S.E. point of Newfoundland), be careful to avoid the *Virgin Rocks*, a dangerous reef, lying 20 leagues S.E. $\frac{1}{2}$ E. [*E. by S.*] from that cape. In gales of wind a heavy sea breaks over them; and a strong current, which sets about them, often increases the danger.

The existence of the Virgin Rocks having been questioned, it is proper to communicate the following extract of a letter, addressed by Arthur Kemp, master of the brig *Indiana*, of Dartmouth, to the publisher of the *Newfoundland Gazette*:—"On the 23rd of October, 1823, at noon, I left Cape Broyle, after a strong gale from S.E., with the wind at W.N.W. steering S.E. by S. The following morning, at 8 a.m., having run 84 miles, I was alarmed with the cry of '*breakers a-head*,' and almost immediately saw them to such an alarming extent, as obliged me to alter the course from S.E. by S. to E. by N., it not being possible to clear them on the other tack. After giving the breakers a good berth, and leaving them to the southward, distant four miles, I hove the main top-sail to the mast, and lay by from 10 o'clock till noon, and observed in in latitude $46^{\circ} 35'$, longitude $50^{\circ} 51'$; the extent of breakers appeared to be about two miles, and were more tremendously alarming than I have ever experienced, during twenty-three years that I have (chiefly in this trade) commanded a vessel."

The reef has since been surveyed by Mr. Rose, master of H.M.S. *Tyne*, who with Captain Bishop, of H.M. brig *Manly*, has ascertained its situation. The following are the particulars.

The bank in which the shoal is situated, extends E. by N. and W. by S. $4\frac{1}{2}$ miles; its broadest part is about $2\frac{1}{2}$ miles. The soundings are regular from 28 to 30 fathoms, until they deepen suddenly on the outer edge to 39 and 43.

The rocks themselves are in $46^{\circ} 26' 30''$ N., and $50^{\circ} 51' 30''$ W. They extend in an irregular chain, S.W. by W. and N.E. by E. 800 yards, varying from 200 to 300 yards in breadth. The least depth of water is on a white rock, in $4\frac{1}{2}$ fathoms, with 5 to $6\frac{1}{2}$ fathoms all round it; the bottom distinctly visible. Toward the extremities of the shoal are several detached rocks of from 7 to 9 fathoms, with deep water between, and with a current setting over them W.S.W. one mile an hour; and with also a very confused heavy swell.

The vessels were anchored upon the rocks for the space of two days, during which the weather was extremely pleasant, and every way favourable for taking the most accurate observations. Variation $26^{\circ} 30'$ W.

SHOAL NEAR THE VIRGIN ROCKS.—In the "Nautical Magazine" for May, 1845, page 267, the following notice appeared.—"A shoal with only 21 feet water upon it, was discovered by Jesse Ryder, master of the fishing schooner *Bethel* (belonging to Province Town, Massachusetts), on the Grand Bank of Newfoundland, in lat $46^{\circ} 30'$, having observed on the shoal, and saw distinctly, it being a rock of about 100 or 200 feet surface; supposes it to be about 50 miles East of the Virgin Rocks. Shoal bears from the Nine Fathom Bank S. by W. by compass about $1\frac{1}{2}$ mile: discovered it accidentally while searching for the Nine Fathom Bank, to fish on. Am certain it was not any part of the Virgins; for I afterwards saw them, and from my experience of the different fishing grounds, know this shoal to exist.

SHIPS BOUND TO ST. JOHN'S are, therefore, recommended to keep on the parallel of 46° , or a degree and a half to the southward of the parallel of that port, and until they approach the outer edge of the Great Bank; and, when they obtain soundings, to steer directly to the north-westward for Cape Spear, the position of which is given as $47^{\circ} 31'$ N. and $52^{\circ} 36\frac{1}{2}'$ W.

EASTERN AND NORTHERN COASTS OF NEWFOUNDLAND.

I.—CAPE SPEAR AND ST. JOHN'S HARBOUR, TO CAPE ST. FRANCIS.

CAPE SPEAR LIGHTHOUSE.—Since the 1st of September, 1836, a lighthouse on Cape Spear has exhibited a powerful revolving reflector light at 275 feet above the level of the sea, which, in clear weather, may be seen at eight or nine, and in ordinary weather, at five or six leagues off. The light shows a brilliant flash at regular intervals of one minute. During fogs a heavy piece of ordnance is fired every hour during daylight.

St. John's Light.—Upon *Fort Amherst*, on the South head at the entrance to St. John's Harbour, there is shown a brilliant fixed light at 110 feet, which may also be seen at a considerable distance. It was established and supported by voluntary subscription in 1813. In 1850 a new lantern and lens apparatus (4th order) were substituted.

THE HARBOUR OF ST. JOHN, which is the principal harbour of Newfoundland, is an excellent one. The entrance is through the "Narrows," a strait running in a N.W. by W. direction about half a mile long, and 220 yards across in the narrowest part, with rocky precipitous heights of 500 feet on each side. There are from 9 to 12 fathoms of water in the middle of the channel, with tolerably good anchorage ground. The harbour then opens by a turn at right angles, and runs in a S.W. direction for a mile and a quarter, and in front the City of St. John appears climbing up a hill, from *Fort William* to *Fort Townsend*. The ridge of hills on the S.E. side of the harbour is 750 feet high, and on the opposite side of the Narrows is a continuation of the same ridge, called *Signal Hill*, 510 feet high, on which is the citadel, to which place all vessels are telegraphed from *Cape Spear* on their first appearance off that place. On *Fort Amherst* on the South Head, at the entrance of the Narrows, is a brilliant fixed light. At two-thirds the distance from the entrance to the harbour itself, is a rock, on the north side, called the *Chain Rock*, which with *Pancake Island* on the opposite shore, contract the entrance at this part; and between them a chain can be stretched when required, to prevent the entrance of any hostile fleet. In addition to this, the fortifications before mentioned, other batteries which command the entrance, and the *Crow's Nest*, a small battery perched on the top of a pyramidal mount on the N. of the entrance of the harbour, render the place perfectly secure against any sudden attack.

The entrance, as above stated, lies N.W. by W., and within will be found to narrow; as, in the inner part, there is a rock on each side, but above water. Here the breadth of the channel is only 95 fathoms, and the depth 9. When past these rocks you may run on boldly, without any fear of danger, only avoiding a rock on the south side, called *Prosser's Rock*, on which there are only 9 feet of water.

About 20 fathoms to the southward of the *Chain Rock*, which is always above water, is the *Roby* or *Salisbury Rock*, on which the U.S. steam frigate *Niagara* struck after landing the electric cable in *Trinity Bay*. It is about to be or is deepened. The same with the *Merlin Rock* inside the entrance, which has been blasted to 27 feet least water.

Within the harbour you may anchor in any depth from 4 to 10 fathoms, land-locked from all winds, as the harbour within the Narrows lies W.S.W. It is, however, to be noticed, that there is no possibility of sailing in, unless with the wind from S.W. by S. to East. The wind from S.W. to N.E. by N., blows out of the Narrows. Here ships must then anchor, and warp in, for which purpose there are rings in the rocks on both sides.

THE FOLLOWING DIRECTIONS FOR ST. JOHN'S have been given by Mr. OWEN.

"The entrance of St. John's Harbour, is readily known by the block-house on *Signal-hill* on the North Head, and *Amherst Fort* on the South Head. There is a sunken rock, called the *Vestal*, 50 fathoms without South Head, with only 25 feet of

NEWFOUNDLAND.

CAPE ST. FRANCIS.

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water on it. This rock is about 10 fathoms long and 7 broad; the marks for it are, Fort William (which stands within the harbour on the north side) open of South Head, bearing N. 39° W.; and the outer *Wash-ball Rock* open with Cuckold's Head, bearing N. 47° E. The *Wash-ball Rocks* join the North Head; they are all above water and steep-to, therefore not dangerous. The course in the Narrows is N.W. by distance 370 fathoms, to *Chain Rock* on the North, and the *Pancake* on the South side. Both these rocks are above water, and steep-to. Sixty-five fathoms within the *Pancake Rock*, on the South shore, lies the *Little Pancake*, a rocky shoal, dry at low water; and 80 fathoms within the latter lies a sunken rock, called *Prosser's Rock*, running off 30 fathoms from a rock above water, in form of a saddle, with 18 feet of water in the hollow, and only 5 feet on the outside. It is steep-to, with 5 fathoms close to it. After you have passed *Prosser's Rock*, you may stand to either shore, as they are clear and steep-to. You may anchor in what water you please, from 8 to 4 fathoms, muddy bottom.

"The tide of St. John's sometimes rises 7 or 8 feet; it is not regular, but greatly influenced by the wind."

NOTE.—"At half a mile S.E. $\frac{1}{2}$ S. from Fort Amherst is the centre of a narrow bank, having 14 fathoms over it, and which breaks in rough weather. It extends nearly a quarter of a mile N.E. and S.W., and has on it, near each end, a depth of 20 fathoms.

"It is high water in the harbour, on the full and change, at 7^h 30^m. Spring tides rise 5, neaps 3 $\frac{1}{2}$ feet."

Be very cautious, if unacquainted with the coast, that you mistake not the place called *Quidi Vidi*, or *Kitty Vitty*, a mile to the northward, for the harbour of St. John's, as it shows an opening like a good harbour, but is fit only for boats, and not safe even for these at low water. *Fort Amherst*, which stands on the South head of St. John's, appears white, and the flagstaffs on the hill, over the North head, will point to the harbour of St. John's: besides these, the course from *Cape Spear* is N.N.W., and the distance about 4 miles. The position of *Fort Amherst* is latitude 47° 33', longitude 52° 40'.

Between the harbour of St. John and *Cape Spear* are three bays; the first is from St. John's to Low Point, and is called *Freshwater Bay*; the second, from Low Point to Black Head, is called *Deadman's Bay*; the third is from Black Head to *Cape Spear*, and is called *Cape Bay*.

ST. JOHN'S HARBOUR TO CONCEPTION BAY.—FROM ST. JOHN'S TO TORBAY the course is between N.E. by N. (being at a little distance without the harbour) and N.N.E. distance 7 $\frac{1}{2}$ miles. Between St. John's and Torbay are several points, first *Cuckold's Head*, on the south side of the Gut of *Quidi Vidi*. The fifth point is the South point of *Torbay*, which lies a mile and a half N. $\frac{1}{2}$ E. from *Red-Head*. This point of *Torbay* is the lowest of these points.

From the South point of *Torbay* to the anchoring-place, where ships usually ride, the course is N.W. by W. Here you may anchor in 14 fathoms, against *Green Cove*. Should you be open of the Bay, the course in is West; for the bay is two miles in extent between the South and the North points. The latter is a low black point, with a flat rock off it, over which the sea breaks: in passing this, from the northward, the course into *Torbay* is W.S.W. *Torbay* is a bad place for ships to ride in with the wind from seaward; for, being open to the ocean, a great sea falls into it.

From *Flat Rock Point*, or the North point of *Torbay*, the course and distance to *Black Head*, are N. $\frac{1}{2}$ E. 3 $\frac{1}{2}$ miles. *Flat Rock Point* is a long, smooth, sloping pavement of red sandstone; hence its name. From *Black-Head* to *Cape St. Francis*, the bearing and distance are N. by W. $\frac{1}{2}$ W. 3 miles.

Cape St. Francis is a whitish point, and low in comparison with the other land; but, from sea, the high land over it marks a cove, called *Shoe Cove*, where boats used to come a tilting (using the fishermen's expression), that is, to split and salt the fish they catch during bad weather.

From Cape St. Francis to the distance of a mile off, triangular-wise, lie sunken rocks, called the Brandys; the outermost, east from the cape, about a mile and three-quarters. There are also islets, or great rocks above water, the outermost of which lies about three-quarters of a mile E.S.E. from the cape; and the innermost not half a mile off shore; between these islets and the sunken rocks, you may go with boats, and find fresh water; but men are generally unwilling to venture. Shoe Cove is protected by the rocks.

There is another cove, to the northward of the point of the cape, for boats, when the wind is off the shore; but, if otherwise, it is not safe.

II.—CONCEPTION BAY, BETWEEN CAPE ST. FRANCIS AND BACALIEU, OR BACALAO ISLE.

CONCEPTION BAY.—From Cape St. Francis to Bell Isle the course is W.S.W., and S.W. by W. 4 leagues. This island, already mentioned, in page 15, is two miles from the shore, against the cove called *Portugal Cove*. Bell Island is bounded by cliffs, at one point nearly 200 feet high; about 5 miles long and 3 broad. Near the S.E. end is Lance Cove, a small indentation of the cliff, which, with a beach, are the only landing-places. It is very fertile, thus differing from the surrounding land. On the S.W. side is the Bell, a perpendicular rock 100 feet high, divided from the island by a passage of 20 yards, passable for boats in calm weather. The vessels that fish there lie in the little cove on the south side of the island, which will contain five or six ships, according to the rate.

From Cape St. Francis to the Island Bacalieu, or Bacalao, the bearing and distance are N.N.E. about 6 leagues. Bacalieu is an island 3 miles long, from north to south, and one mile and a half broad, and is almost inaccessible. Here boats were used to catch abundance of sea-birds, of several sorts, breed here in the summer. Between this island and the main is a channel about 2 miles broad, having a sufficient depth for ships. The Bay Verde and the S.W. end of Bacalieu lie E. by N. and W. by S. from each other about a league and a half.

LIGHTHOUSE on Bacalieu Island.—The tower is of brick, the keeper's dwelling a square building detached from the tower, painted white, with the roof red. The light apparatus is a lens of the 1st order (holophotal).

The light is a revolving white light, showing a flash every twenty seconds. It is elevated 380 feet above high water, and will be seen in clear weather forty nautical miles, and a lesser distance according to the state of the atmosphere. When the Southern end of the island bears S.S.W., the light will not be visible when nearer the island than eight miles. First shewn December 20th, 1858.

Bay Verde.—From Cape St. Francis to the Bay Verde Head is N. by E. about 5½ leagues; and, from the head to the bay, or cove, where ships ride, to the westward of the head, is about three-quarters of a mile. The roadstead is not above a cable's length in extent between the points, which lie N.N.E. and S.S.W. from each other; you lay your anchors in 10 fathoms, and your ship will lie in 5, with a cable out; the stern will then be not above half a cable's length from the stages. It is a bad and hazardous place for ships, except in the summer time.

Bay Verde, or Bay of Herbs, as it is here called, may be readily known by the Island Bacalieu, and also by another head within Bacalieu, called Split Point; as well as by Bay Verde Head itself, which is the westernmost; these three heads show very bluff, and very like each other, on coming from the southward: there is no danger in going into Bay Verde but what may be seen.

From Bay Verde Head to Flamborough Head the bearing and distance are W.S.W. ¼ W. four miles. Flamborough Head is a black steep point; neither is there any safety between Bay Verde and Carboniere (7 leagues S.W. by W.), excepting two places for boats, the one in the S.W. cove of the Green Bay, which is but an indifferent place, and lies S.W. by W. about 4 leagues from Bay

Verde, and the other in Salmon Cove, which is about a league and a half northward of Carboniere.

From the South point of Green Bay to Black Head is S.W. $\frac{1}{2}$ W. a league; and from Black Head to Salmon Cove, W.S.W. 4 miles. The latter is a place of shelter for boats, an island lying in the middle; a river runs up from the cove, which abounds with salmon.

Carboniere.—From SALMON COVE to CARBONIERE, the course is W.S.W. about 4 miles. The Island of Carboniere is at about a mile from the shore. Its south side is low. The harbour is very bold on both sides; so is the island, between which and the main are rocks, just under water. This is a good place for ships to ride in, and for catching and curing of fish. There is very good anchorage, in clear ground, fair turning in or out, being more than half a mile broad, and 3 miles long; the depth 5 to 8 fathoms, and deeper water. To the northward of the point of Carboniere are two coves, *Clown Cove*, fit for boats only, and *Croker's Cove*, close to the entrance of Carboniere Bay.

The proper channel into Carboniere is on the North side of the island, which lies off its southern point; the entrance here being more than a mile wide. Ships may, however, pass on the S.W. side of the isle; but they must keep in mid-channel, because the ground is foul and shoal on each side, so as to form a narrow passage only.

To the W.S.W. of Carboniere Island is a small cove, called MOSQUITO COVE: in this cove ships may ride, but it is seldom used, as it is not convenient for fishing ships, although the ground is clean, and it has sufficient depth of water.

Harbour Grace.—The entrance of Harbour Grace is a league to the southward of Carboniere Island. A rock, called the *Salvage*, stands nearly in the middle of the channel; and there is another, called the *Long Harry*, near the North shore, having only a boat-passage between it and the main. Both are of great height above the water. Harbour Grace is a pretty-looking little town, consisting of one long, straggling street, along the north side of the harbour; the houses being mostly painted white, and standing on a narrow flat, with a rocky ridge behind them.

NOTE.—“In the month of December, 1820, H.M. sloop *Favorite*, Captain H. Robinson, visited Harbour Grace, when Lieut. R. Pearce, of that vessel, made an accurate survey of the port. The town was then considerable, and of respectable appearance. Captain R. describes the harbour as good; for, though the space between the end of the bar and the north shore is rather narrow, a large ship, well handled, may beat through, or back and fill, in and out, with the tide.”

“Port Grace is a remarkable basin, hollowed out in the cliffs by the action of frost, or the more certain operation of time, in destroying the slate-clay of which the rocks are composed. First an arch is entered, 20 feet wide by 20 high; and beyond is the basin itself, which is about 300 feet in circumference, and surrounded by perpendicular rocks, 120 feet in height, with a border of dwarf spruce at top. At one corner a little aperture, among broken masses of rock, carries off the superfluous water; the depth near the centre of the cavity is about 14 feet.

“On the 18th of August, 1832, an awful and destructive fire broke out and destroyed 100 dwelling houses at this place, with the church, &c., when 600 persons, who in the morning were in comfort and opulence, were before night without shelter and food. For the particulars, see ‘Nautical Magazine, December, 1832, pp. 605-6.’”

Within the bay, a bar or ledge extends from the South side, more than half-way over, as shown in the particular plan of the Harbour.

You may turn into Harbour Grace, all the bay over, from side to side. The *Salvage* may be passed on either side, as most convenient: and, having passed within this rock, you may turn from side to side, by the lead, till you draw toward the edge of the bank, then proceed by the North shore.

You may know when you are near the bar, or ledge, by two white rocks on the

land, by the water side, in a bank on the North side, which show whiter than any other part: these are about a mile below, or to the eastward of the beach, which is proper to be known: by keeping near the North shore, you will find 3 fathoms and a half on the bar, and presently after 4, 5, 6, and 7 fathoms; but if you stand over to the southward, till you have advanced within the bar, or ledge, you shall not have above 7, 8, or 9 feet of water; this sand trends S.E. from athwart the two white rocks above mentioned, and extends close up to the South shore. Having passed its outer extremity, you may turn from side to side till within the beach, on the North side, and ride land-locked in 4, 5, or 6 fathoms, or higher up in 7, 8, 9, or 10 fathoms, as you please.

HARBOUR GRACE ISLAND LIGHTHOUSE.—Three islets, called **HARBOUR GRACE ISLANDS**, lie off the South point of the entrance of Harbour Grace, in an East and West direction. On one of these is a lighthouse, perched on the brink of a precipice, consisting of a square wooden house. It shews a bright fixed light from 15 lamps and reflectors, from N. to S.W. by W. seaward, on the land side between these bearings the light is more feeble. Elevated 151 feet; shewn first November 21th, 1837. The island, a block of slate, is only accessible by ladders, and in smooth weather. No vessel should attempt a passage between them and the main, as the ground is foul and shoal, and there are rocks about the islets.

Harbour Grace Beach Beacon and Light.—First exhibited 11th September, 1854; stands on the Point of Beach, at the entrance of Harbour Grace. It is a double light, as a distinction from Harbour Grace Island Light, one being placed above the other, preserving that appearance for six miles; exceeding this distance up to ten miles, the two Lights appear blended into one. In sailing into Harbour Grace with a fair or leading wind, bring the Beach Beacon to bear W. or W. by S., and by keeping the Light or building a little on the starboard bow, it will carry you clear of the Bar, on which at low water there is not more than 8 feet of water.

From Harbour Grace to Cape St. Francis, the bearing and distance are E. by S. 6 leagues.

BRYANT COVE, to the southward of Harbour Grace, is not a place for ships; it is, however, a good place for fish. In the middle of the entrance is a rock above water. You may pass it on either side, and have 4 or 5 fathoms, and then anchor within it in clean ground.

Spaniard Bay.—From Harbour Grace to Spaniard Bay, the distance is about two leagues. This bay is deep and large, and there is good anchoring all over it. It is divided from Bay Robert by a small neck of land only.

Bay Robert is about half a league broad. There is very good turning into it, and no danger but what may be seen. You may borrow on either side, and go close to the island which lies on the starboard side of the entrance. The bay is, at least, three miles long. Being past the island, or to the westward of it, which is bold-to, you may run up about a mile, and lie land-locked in 9 or 10 fathoms within the island.

From the point of Bay Robert to *Port Grave*, the distance is 3 miles. *Port Grave* is extensive, deep, and very bold, as the other bays are: there is a cove on the starboard side of the entrance, called *Sheep Cove*, where you may moor by head and stern, and ride in $4\frac{1}{2}$ and 5 fathoms; but your anchor to the W.S.W. will be in 22 fathoms, at about a cable and a quarter's length from the ship.

NOTE.—"It is a fact worthy of notice, that the whole of the land in and about the neighbourhood of Conception Bay, very probably the whole Island, is rising out of the ocean at a rate which promises, at no very distant day, materially to affect, if not to render useless, many of the best harbours we have now on the coast. At *Port de Grave*, a series of observations have been made, which undeniably prove the rapid displacement of the sea-level in that vicinity. Several large flat rocks, over which schooners might pass some thirty or forty years ago, with the greatest facility, are now approaching the surface, the water being scarcely navigable for a skiff. At a place called *Cosh*, at the head of Bay Roberts, upwards of a mile from the sea shore,

and at several feet above its level, covered with five or six feet of vegetable mould, there is a perfect beach, the stones being rounded, of a moderate size, and in all respects similar to those now found in the adjacent landwashes."—*Newfoundland Times*, 1847.

From Sheep Cove to Port Grave, the distance is a mile, or rather more; but ships do not ride within the small islands which are by Port Grave, the water within them being shoal; but they ride off without them.

From Sheep Cove to *Cupid Cove*, on the South coast of Port Grave, the course is S.W. about a league. This is a good place for a ship or two to ride in, in 4, 5, or 6 fathoms, and not above a point open. The cove lies in a W.S.W. direction, and the South side of the bay to Burnt Head trends E. by N. about two miles.

Brigus Bay.—From Burnt Head to Brigus is S.S.W. two miles. The South point of Brigus is a high rugged point: the bay of Brigus is not above half the breadth of Port Grave Bay; you run up W. by S. and West, about half a league, and anchor on the North side. Small vessels only use this place, it being so far up the Bay of Conception. It is a wild, rocky, little place, and a rather considerable settlement.

Collier Bay.—From Brigus to Collier Bay is S.S.W. two and a half or three miles. And from Collier Bay to Salmon Cove or Pool, the distance is nearly two miles and a half.

Harbour Main.—This is a good place for fishing, but ships seldom go up so high in the bay. From Burnt Head, of Port Grave, or Harbour Main, the course and distance are S. by W. about three leagues; and from Harbour Main to Holyrood S. by E. about two miles; then the land trends about to eastward toward Bell Isle. Holyrood Harbour has 10 fathoms of water, and good ground.

III.—TRINITY BAY, ETC., BETWEEN BACALIEU AND CAPE BONA VISTA.

TRINITY BAY.—This extensive Bay, between Bacalieu Island on the S.E. and Trinity Harbour on the N.W., is 7 leagues in breadth, and its depth, from the entrance, is 20 leagues. The south point of the entrance, westward of Bacalieu Island, is called the BREAK-HEART POINT. The next point to the eastward is the POINT OF GRATES. Between these points is a small bay, in which boats may lie with a wind from the land of Break-heart Point: there is a ledge of rocks, but they are above water.

From Break-heart Point to Sherwick Point, going into Old Perlican, the course is S.W. by W. $5\frac{1}{4}$ or 6 miles. To the southward of Break-heart Point is an islet called Scurvy Island; the coast here falls in a pretty deep bay.

Old Perlican.—Sherwick Point, the north point, is bold; there is a rock off it, above water: this point is the north point of Old Perlican. They who are bound to Old Perlican, cannot go in with a ship between the island and Sherwick Point; therefore, whoever intends for Old Perlican with a ship, must pass to the south of the island, between it and the main. Within it is an anchorage, in 4 or 5 fathoms. It is, however, to be observed, that there is a rock just even with the water, and some under water, about the middle of the bay, within the island, or rather nearest to the main. Old Perlican has but an indifferent road.

Sillé Cove.—From Old Perlican to Sillé Cove, the coast rounds to the Westward, S.W., and S.S.W., about six leagues. Sillé Cove is but an indifferent place for ships, such as Bay Verde, already described.

New Perlican.—From Sillé Cove to New Perlican, the distance is a league. This is a very good harbour, where you may lie land-locked in 5, 6, 7, 8, 9, or 10 fathoms. It is very bold and large going in, so that, if you can see the point before night, you may safely run in, there being nothing to hurt you but the shore itself. The easternmost point of the entrance, is called Smutty-nose Point, and the westernmost Gorlob Point; the entrance between is more than a mile broad, and has about 20 fathoms of

water. On sailing in, it will be found narrower and shallower, lying in first west, and terminating in a bight, where you may lie landlocked, in a berth half a mile broad; so that you may turn in or out, and anchor in what depth you please, from 12, 10, 8, 6, 5, or 4, fathoms, very good ground.

S.W. by W. from New Perlican, distant $2\frac{1}{2}$ miles, is Heart's Content, a fine spacious harbour, nearly circular, and excellently sheltered from all winds; it is a thriving place. The coast bears generally S. by E. from Heart's Content, and consists of a low shore of bright red and grey slate. Twenty miles distant from Heart's Content is New Harbour, a shoal place, and difficult of entrance. Almost all this eastern side of Trinity Bay is inhabited. At the head of the bay is Dildo Harbour, and 5 miles to the W. of this is Chapple Arm, a small settlement. Nine miles N. by E. by E. is Tickle Harbour Point.

Tickle Harbour Point is a narrow promontory extending 5 miles in a north-easterly direction from the head of Trinity Bay, and dividing it into two nearly equal parts. The land near the extremity of the point rises 432 feet above the sea, and continues with some undulations about the same height.

NOTE.—"The description of the head of Trinity Bay is derived the remarks of Captain Otter, R.N., in H.M.S. *Porcupine*, when that vessel assisted in laying down the Atlantic Telegraph Cable in August, 1858.

Bowers Ledge, a rocky patch, with $8\frac{1}{2}$ fathoms least water on it, lies N.N.W. 2 miles from Tickle Harbour Point, and when on it Hopeall Head shows open of Tickle Harbour Point, and Western Head, bearing W. by N. $\frac{1}{2}$ N., is in line with the south part of Flat Hill. Uneven ground extends half a mile to the north-eastward of the ledge.

Tickle Bay, situated to the westward of Tickle Harbour Point, is an excellent place for fish; but though the water is shallow, and the bottom good near the head of the bay, it is not a safe anchorage, as a swell nearly always sets in, and with east or north-east gales is very dangerous. *Hudson's Reef*, at three-quarters of a mile from the south shore of Tickle Bay, is a reef running parallel with the land for a mile. The outer or north-east end has only 15 feet water on it, and bears West 2 miles from the outer part of Tickle Harbour Point.

TICKLE HARBOUR is formed in the south corner of Tickle Bay, at the entrance of a salt water lake, and is protected by a small island and a reef of rocks. The entrance is only a cable wide with 4 feet in it at low water. The ebb stream sets out very strong, and over a sandy spit, so that none but those locally acquainted should attempt it.

Six families are at present residing here, in ill constructed wooden houses, and their attention is altogether directed to fishing.

Big and Little Chance Coves.—These two small bays, lying 4 miles to the northward of Tickle Harbour, and W. by N. $\frac{1}{2}$ N. $4\frac{1}{2}$ miles from Tickle Harbour Point, are only fit for small vessels during the summer months. About a dozen families reside on the shores of these coves, amongst which the name of Smith is very prominent. Neither school, church, or medical man are in the place, and but few of the children can read. *Rantem Cove* is 2 miles to the northward of the Chance Coves. The water in it is very deep, but anchorage and good shelter may be obtained by standing well up into its north or north-west arms.

BULL ISLAND, $1\frac{1}{2}$ miles long and partially clothed with wood, lies E. by N. $\frac{1}{2}$ N. 3 miles from Masters Head, and North 5 miles from Tickle Harbour Point. Its centre is elevated 281 feet above the sea, and is in latitude $47^{\circ} 46' 29''$ N., longitude $53^{\circ} 49' 41''$ W.

On the northern side of this island, near the east end, is an excellent little harbour for fishing craft, quite land-locked, with a sufficient supply of fresh water, and in stormy weather 50 to 60 small schooners and boats may be seen taking shelter in it. A rock, awash at low water, lies near the western side of its entrance, but this danger may be easily avoided by keeping the gravelly point on the opposite shore close

aboard. It is high water, full and change, at Bull Island, at 7^h 22^m; springs rise from 3 to 4 feet, neaps 1 to 2 feet.

Bull Island Tickle is a Sound half a mile wide, formed between Bull Island and the main. Near the centre of this Sound, rather towards the eastern entrance, is a ledge, 6 feet above water, called the Flat Rocks. half a cable's length, and S. by W. the same distance from the south end of the ledge are 2 sunken rocks with only 2 feet water on them; the north end of the ledge is steep-to. On the north side of the above Sound, and bearing North from the west end of Bull Island, is Rix Harbour, carrying a depth of 7 or 8 fathoms, and, affording good anchorage for moderate sized vessels.

BULL'S ARM.—The entrance to this inlet or Arm is between Bull Island and Masters Head; from thence it takes a northerly direction for 7 miles, and then trends to the N.W. for 2 miles to its head. There are no dangers at a moderate distance from either shore, and no good anchorage except at the head of the Arm.

Porcupine Reef is a rocky patch with 9 to 14 fathoms water on it, lying 2½ miles from Bull Island, nearly in mid-channel within the entrance of Bulls Arm.

The Atlantic Telegraph Cable, which was laid down between Valentia, Ireland, and Newfoundland, in August, 1858, was landed in Bulls Arm. This important undertaking, the result of vast outlay, and if successful destined to have been of the utmost service to the world, unfortunately became unserviceable from some unknown cause a very short time after it was submerged.

It was laid down in a green, stinking, slimy mud, with small stones and broken shells. It passed 1 1-10th miles to the southward of Bull Island; and when Hopeall Head was shut in with Tickle Harbour Point, the direction was gradually changed to N.W., so as to avoid some rocky ground, with 35 fathoms water on it, lying W. by S. one mile from the west end of Bull Island, and on which ice-bergs have been seen to ground. The western shore of Bulls Arm was then kept aboard, and the cable landed to the westward of the jetty.

A telegraph line communicated with St. John's, a distance of 80 miles, and the posts are erected by the side of an indifferent bridle path, which the company were required to make. A line also communicates with New York by Cape Breton from St. John's, a distance of 1,160 miles. This line is carried round the head of the inlets on the south coast of Newfoundland, and passes from Cape Ray to Cape North of Cape Breton Island.

The head of Bulls Arm approaches Come by Chance Inlet, at the head of Placentia Bay. The isthmus formed by these two arms connects the peninsula of Avalon with the main part of the island. It is about 3 miles broad, and 150 or 200 feet high, sloping toward Trinity Bay. To the east of the isthmus is Centre Hill, about 1000 or 2000 feet high.

Random Western Head lies 6½ leagues N.E.¼ E. from the entrance of the Bay of Bulls. It forms the eastern entrance to the South West Arm, an inlet running parallel with Random Sound, 4 leagues in length. In Random Sound are several arms and harbours. Random and Smith Sound uniting form Random Island, the channel being in the whole 13 leagues in length. At the conjunction of the two sounds is a bar, nearly dry at low water. Here it is not a mile broad.

Port Bonaventure.—From Bonaventure Head to Bonaventure Harbour, the course is N.W. by N. a mile and a half; but, having advanced a mile from the head, then the harbour lies N. by W. to the Admiral's Stage. Port Bonaventure lies within two small islands, between which is the proper channel, but you may go on either side, if you have a leading wind, there being no danger, and 4 or 5 fathoms of water, at least. Within the islands, you may anchor in that depth, in good ground. There is a very secure place for boats in bad weather, running in within a point, behind, or to the northward of, the Admiral's Stage, like a great pond. This place will contain above 100 boats in security.

There are several islands without, off Bonaventure; the middle one, called Green Island, is nearly S.S.W. from the port, distant five miles. It is so high as to be seen, in fair weather, as soon as you come out of Trinity Harbour.

TRINITY HARBOUR.

From Bonaventure Head to the point called the Horsechops, the bearing and distance are East, eight miles.

From Bonaventure Head to Trinity Harbour, is N.E. $\frac{1}{2}$ E. 4 $\frac{1}{2}$ miles; between are some bays, but not for ships to ride in, unless with the wind off the shore.

The Horsechops and Sherwick Point (being the East point of Trinity Harbour) lie N.W. by W. $\frac{1}{4}$ W. and S.E. by E. $\frac{1}{4}$ E. from each other, distant 4 $\frac{1}{2}$ miles. Between the Horsechops and Trinity Harbour is English Harbour, at the distance of 3 miles from the Horsechops. Within the outer point this harbour trends eastward; it is a clean bay, and you ride in 4 or 5 fathoms of water. Without Salmon Cove, a mile north of English Harbour, is a headland, called Fox's Island, connected to the main by a neck of beach. To the northward of the headland, between it and Sherwick Point, is a bay, called Robin Hood's; and in this bay, behind a point, small ships ride and fish.

TRINITY HARBOUR.—From the Horsechops to Trinity Harbour, the course and distance are N.W. by W. 5 miles. Trinity Harbour is the best and largest harbour in all the land, having several arms and coves, wherein several hundred ships may ride land-locked. A lofty rocky promontory lies in the centre of the harbour, on the lower part of which, the houses composing the town are irregularly scattered. It is a place which you may turn in or out of, being bold-to on each side, and having no danger but what may be seen; excepting that, at the entrance of the S.W. arm, there is a shoal, called the Mussel Bank, which shoots off from a point within the islet on the port side going in, and extends N.N.W. about a third of the breadth over that arm. Being within this bank, which will discover itself by the colour of the water, you may edge over close to the south shore, if you please, or keep your lead to avoid the Mussel Bank, giving it a little distance. You may anchor in 14, 12, or 10 fathoms, and approach so near to the stage on shore, as to make a stage with topmasts to your stage on shore, to lade or unlade your ship. This is a most excellent harbour, for after you are in the S.W. arm, you find another running up to the N.W. which is continued by another extending S.W., but there is a bar, or ledge, at the entrance of the latter. The N.W. arm is a large harbour, having good anchorage for 500 sail of ships. Besides the fore-mentioned arms, the main harbour turns up to the north.

Ships, being within the harbour's mouth, may ride in a cove, large and good, on the starboard or east side, and land-locked in good ground off the town. Over against that cove, on the port or west side, are two other coves; the southernmost of them is called the Vice Admiral's Cove, convenient for curing fish; and above, or to the northward of that, is a large cove, or arm, called Got Cove, where there is room enough for 300 or 400 sail of ships to ride, all in clear ground, protected from winds, sea, and tide. In this place ships lie unseen until it appears open. Your may turn in or out, as already noticed, observing your tide, which rises about 4 feet, and sometimes more.

From the Horsechops to the South Head of Catalina Bay, a distance of 9 miles, the coast rounds to the N.E. About two miles to the northward of the Horsechops is an indent, named Green Bay, but it is no place for ships to ride or fish in. Being past Green Bay, there is no place or cove for boats till you come to Rugged Harbour or to Catalina.

From the South Head of Catalina Bay to the North Head is 5 $\frac{1}{2}$ miles; between the two heads is Rugged Harbour and Catalina Harbour. The South Head is in latitude 41° 27' 38".

Rugged Harbour is so called from the numerous rugged and craggy rocks which lie before and within it, above and under water. They who proceed for this harbour with a ship must pass to the northward of all the rocks or islets, and run to the northward till they bring the harbour open; then sail in between a round island which lies close to the main, and a great black rock, which lies off the north end of all the islets. There is a river of fresh water at the head of the harbour.

CATALINA HARBOUR.—One mile and a half to the northward of Rugged

Harbour is the Harbour of Catalina, which is very safe, with good ground, in from 3 to 8 fathoms.

Green Island Lighthouse.—Off the south point of the harbour is Green Island, on which a lighthouse was erected in 1857. It consists of the keeper's dwelling through which rises a stone tower, exhibiting a bright fixed light, at 92 feet above high water, visible from E.N.E. round southerly to S.W. for a distance of 12 miles. Vessels bound northward by keeping this light open with the North-head of Catalina until Bonavista light opens with Cape Larjan, will give the Flower Rocks, presently alluded to, an ample berth; or when coming from the northward, and bound for Catalina, by giving the North Head a moderate berth, you will clear the Brandys, by steering for Green Island Light.

You may, with a leading wind, sail between Green Island, and have 4 or 5 fathoms at the least, in going through, but it is not above a cable's length broad; or you may go without that island, to the eastward of it, giving Green Island a small berth, and so sail in with the middle of the harbour; for, at about half a mile distant from the south point of the harbour, to the east, is a reef, called the Brandys, upon which, if there be ever so small a sea, it breaks; but you may sail between the island and the reef, or you may go to the northward of it, between the reef and the north shore.

A rock, having over it but 9 or 10 feet of water, lies off the north shore of Catalina Harbour, at one-third of a mile within the Brandys above mentioned; but between the two is a depth of 10 fathoms, with a continued depth of 7 fathoms more than half a mile along the south shore. Within this, up the harbour, you may anchor in 5 fathoms, land-locked. You may likewise anchor in 3½ fathoms, to the southward of the little green island, at the entrance of Little Catalina, or the N.E. arm of the Harbour; or you may run up toward the village or the river-head, whence fresh water runs down. A kind of bore rises in this place very often, that will cause the water to rise three feet suddenly, and then down again; and you may find it so two or three times in three or four hours, at certain seasons. Salmon abound at the head of the harbour.

From the North-head of Catalina Bay to Flower Point, the coast, which is high cliff, trends N.E. by N. 2¼ miles. Off the point is a reef of sunken rocks, called Flower Rocks; over which the sea breaks during a swell, and they discover themselves plainly. They lie about half a mile off shore, and extend a mile true East. You may go between Flower Point (which has some rocks lying about it) and the sunken rocks above described. A mark to go without them is, to keep the Gull Island, off Cape Bonavista, open of all the land to the southward: this will lead clear without them to the eastward.

Bird Islands.—From Flower Point to the two islets called Bird Islands, the distance northward is two miles. Within the Bird Islands is a bay, with one arm within the south point of the land, which runs up some distance to the west, where ships may ride; another arm, also, runs up within some rocks which are above water. The bay extends to Cape Larjan, half a league farther north. The extremity of Cape Larjan is but a low point, off which lies a great rock above water.

From Cape Larjan to Spiller's Point is N. by E. half a league; between this cape and Spiller's Point the land falls into a bay. Over the point between it and Cape Larjan, you will see the high land of Port Bonavista, from a considerable distance off at sea. Spiller's Point is moderately high, steep, and bold-to.

IV.—BONAVISTA BAY BETWEEN CAPE BONAVISTA AND CAPE FREELS.

From Spiller's Point to Cape Bonavista, the course is North 2¼ miles; between is a bay, apparently deep, which persons unacquainted with would suppose to be the harbour of Bonavista.

Nd.

E

CAPE BONAVISTA is in latitude $48^{\circ} 42' 10''$. The head of it appears at a distance of a sky-colour. At about half a mile N.N.E. from the cape is a small islet called Gull Island, easy to be known, being moderately high, but highest in the middle, and makes somewhat like form of a *Fleur-de-lis*, or a hat with great brims; you may see it 4 or 5 leagues off in clear weather; near it there is from 4 to 6 fathoms of water. To the S.S. about 310 yards off is a danger which does not show.

The Lighthouse on Cape Bonavista has been in operation since September the 10th, 1843, from sunset to sunrise. This light *revolves* at regulated intervals of two minutes, exhibiting alternately a red and a white light, and burns at an elevation of 150 feet above the level of the sea. The light apparatus was previously used in the celebrated Bell Rock Lighthouse, off the east coast of Scotland. The light can be seen in clear weather 30 miles off. By keeping it open with Cape Larjan it will carry you clear of the Flower Rocks.

At N.N.E. $\frac{1}{2}$ E. $3\frac{1}{2}$ miles from Gull Island lies a rock, which bears the name of Old Harry, and has only 13 feet of water upon it. The sea breaks over this spot, unless when the water is very smooth. To the N.E. from the Old Harry, within an extent of nearly three miles, are several dangerous spots, with from 3 to 4 fathoms: the outer or northern edge of these is called Young Harry. Vessels when passing, in order to avoid these rocks, must be careful to keep Cape Bonavista open with the westernmost extremity of a high range of land to the southward, named the Green or Inner Ridge. These dangers, together with the long ledge called the Flower Rocks, near Flower Point, above mentioned, render it very imprudent to attempt making Cape Bonavista in thick or boisterous weather; and, indeed, at any time, Bacalieu Island, between the entrances of Conception and Trinity Bays, is the best and safest land-fall for a stranger bound to any part of Bonavista Bay, especially since it has been marked by the fine lighthouse now in service.

There is a channel between Gull Island and Cape Bonavista; it is nearly half a mile wide, with a good depth; but it is to be observed, that, in rounding the cape, you may not stand in close, as there is a sunken rock about 300 yards S.S.W. from the Gull Island, and another, on the opposite side within the cape, upwards of 200 yards to the N.E. of the land of Green Island, which will be presently noticed. Each has less than 3 fathoms of water.

Green Island is an isle half a mile in length, lying nearly parallel with the western side of Cape Bonavista. The passage between admits small vessels only, being narrow, and some spots have shoal rocks. At a mile and a quarter to the westward of Green Island is a small islet called Stone Island, with a reef on its eastern side, but the general depths between are from 8 to 16 fathoms.

At a mile to the southward of Green Island is a reef called the Red Rocks, lying off Red Cove, which is terminated by Western Head. In succession after this, between it and the Port of Bonavista, are Red Point, Moses Point, and Swerry Head; the two last, with their surrounding rocks, marking the north side of Bonavista Harbour.

BONAVISTA.—From Cape Bonavista to Port Bonavista, the course are south-westward, about four miles. If you come from the southward, and intend for Bonavista, you must leave Green Island on your port side. You may sail between Green Island and Stone Island, with any ship, without danger, the channel being safe and bold; or, you may go to the westward of Stone Island, and run to the southward till you open the harbour of Bonavista and are past Moses Point, and so to the southward of the rocks called the Swerrys, which are high rocks, having no passage to the northward of them. Here you may anchor, in from 11 to 5 fathoms, as you please, but must always have a good anchor in the S.W. and another fast in the the Swerrys, or in the N. W., for westerly winds blow directly into the road.

With small vessels you may go between Green Island and the main, and so to Red-head; but the bay between the points (over against Green Island) and Redhead is all foul ground. At a little distance, or about a cable's length from the shore, is a sunken rock, but boats may go between the shore and it. The sea breaks on it. Being past

Western or Redhead, the course to Moses Point is W.S.W.; between is a large bay or cove called Bayley's Cove, where you may anchor on occasion, not advancing too far in, as all its shore is rocky and shoal.

Captain W. Bullock, R.N., one of the surveyors of Bonavista Bay, &c., has said of BONAVISTA HARBOUR, that it is an anchorage of little or no consideration, further than being a *very* eligible situation for carrying on the fishery; being so very badly sheltered that, in N.W. gales, immediately following a continuance of heavy winds from seaward, the water breaks right athwart the harbour, and sometimes the whole of the fishing-boats founder at their anchors, and not unfrequently many of their stages are destroyed: however, vessels during the summer months, moor under the Swerry Head, in 8 or 10 fathoms; but, even there, as in every other part of the harbour, the ground is so rocky and uneven, that they are necessitated to buoy up their cables. Bonavista is a large and straggling, but pretty-looking place, with a good deal of cultivated ground about it, which is more fertile than the neighbourhood of St. John's, but the want of a good harbour prevents its becoming one of the most thriving places in the whole island.

BONAVISTA BAY.—This extensive bay is limited by Cape Bonavista on the south, and by Cape Freels on the north. The bearing and distance from the one to the other are N. by E. [N.N.W.] 41 miles. The position of Cape Bonavista is, latitude $48^{\circ} 42'$, longitude $53^{\circ} 8'$: that of Cape Freels (Gull Island), latitude $49^{\circ} 19' 6''$, longitude $53^{\circ} 26' 58''$. The whole coast between is tortuous or much indented, rocky, difficult, and dangerous: on the south, the land is high and mountainous, and the coast steep and iron-bound: on the north side it is low and marshy, and from the shore the water is shoal to a considerable distance, abounds with small islands, and is encompassed with dangers on every side.

The harbours in Bonavista Bay are numerous, and safe when once gained; but they are, in general, so deeply embayed, the land is so diversified, and the passages so intricate: the places recommended are, Barrow and Great Chance Harbours, in the S.W. part of the Bay; New Harbour and Cat Cove on the N.W. These places are described hereafter.

Blackhead Bay.—Black Head is $2\frac{1}{2}$ miles W. by S. [S.W. $\frac{1}{2}$ W.] from the Harbour of Bonavista, and Southern Head is 8 miles N.W. by W. [West] from Black Head. The latter are the two extremities of Blackhead Bay, which is two leagues in depth. On the S.W. side of this bay, at nearly a league and a half to the southward of Southern Head are the fishing establishments on Kings's Cove; but this is even a less desirable place of shelter than Bonavista, lying directly open to seaward, and having a foul bottom.

Great Chance Harbour.—The entrance of Great Chance Harbour, which is an excellent anchorage, lies 10 miles W. $\frac{3}{4}$ S. [S.W. $\frac{1}{2}$ W.] from Western Head. The passage to it is clear, with the exception of a rock of 18 feet, the Bacon-bone, lying a mile and a quarter south-westward from Western Head. In sailing for this place the safest way is, not to shut in Southern Head until the isle called Little Denier, bearing N. $\frac{1}{2}$ W., comes on with the outer Shag Island. Thus the Bacon-bone will be avoided, and you may steer for the harbour, S.W. by W. and West, without having any danger to encounter until you approach the entrance: but here, in the southern part, lies a sunken rock with only 6 feet of water. Within this rock, and in a line with it, are two islets, called the Mustard-bowls; in order to avoid the rock, be careful not to shut in the western Mustard-bowl with the eastern. Wood and water may easily be procured here.

At two miles E. by N. from Chance Point (the outer point of Chance Harbour), is a spot of ground with 7 fathoms, over which the sea breaks in very heavy gales from seaward, but it is not dangerous in fine weather.

To the N. by E. at one mile from Chance Point, is the rock of the same name: it is always visible, and has no other danger near it. Chance Point, as well as Cutler's Head, is very steep.

Goose Bay.—From Connecting Point, which separates Chandler's Reach, to the W. of Great Chance Harbour into two arms, Goose Bay runs S.W. by W. to the

distance of $6\frac{1}{2}$ miles; by keeping these middle of the channel, all dangers will be avoided, as they lie near the shore, and the depths will be from 46, 40, and 36 fathoms, until to the west of Lubber's Hole, when the depth will vary from 13, 12, 10 and 8 fathoms.

Clode Sound.—When two miles from Connecting Point, a vessel can also proceed W. $\frac{1}{2}$ N. to Clode Sound, where there are two good anchorages, Long Cove and Love Cove. The entrance of the first, $7\frac{1}{2}$ miles from Connecting Point, is formed by Dividing Head; the anchorage here is in $4\frac{1}{2}$ to $5\frac{1}{2}$ fathoms. The second is 3 miles W. by S. from Dividing Head; it is not very deep, but a mile wide in the opening; the depth of water is $4\frac{1}{2}$ to 10 fathoms. Clode Sound is frequented for the timber which is found at the head of it.

Long Islands.—These islands are four in number: the channels between them are narrow, and ought not to be tried without some knowledge of them. The islands have some covered rocks on the north side, but the most distant is not more than 600 yards from the land.

Newman's Sound is an arm of the sea, 11 miles in length; Swale Island, which forms the larboard entrance, is 24 miles from Cape Bonavista, in W. by N. $\frac{1}{2}$ N. [W. by S.] direction, and 10 miles from Western Head. This island divides the entrance into two passages, one to the south called Swale Tickle, the other Newman's Sound; the first very difficult, and therefore ought not to be used; the second leads to Sandy Cove, Great and Little Happy Adventure, and lastly North Broad Cove.

Sandy Cove is situated to the N. by W. $1\frac{1}{2}$ mile from the N.E. point of Swale Island; it is a very good anchorage, and is very easily known by its sandy beach, the only one on this side of the Sound; there is no danger in the route which leads to it, and the anchorage is in 14 to $4\frac{1}{2}$ fathoms.

Great and Little Happy Adventure, at a mile westward from Sandy Cove, are two snug little coves, on the same side of the bay; but, from the narrowness of their entrances, they are adapted only for the resort of small vessels: between these places lies a sunken rock about 80 yards from the shore, with only 4 feet of water upon it. The passage into Great Happy Adventure is to the N. of Sydney Island.

North Broad Cove.—The entrance to this cove lies to the W.N.W. one mile from Harbour Head; it is a very commodious harbour; the anchorage is good, and is easily known by the direction which it takes to the West, and by Black Duck Island, which is to the South of the port side of the entrance, at the distance of half a mile. In coming from the east to this anchorage, after passing Harbour Head, steer for Black Duck Island, for $1\frac{1}{2}$ mile, to avoid a sunken rock at 300 yards from the shore; then proceed N. $\frac{1}{2}$ W. or else N. by W. $\frac{1}{2}$ W. in order to pass to the North or South of a danger which lies in the middle of North Broad Cove, and which does not show. When at the end, there is anchorage in less than 22 fathoms, muddy bottom.

SOUTH BROAD COVE.—There is another harbour on the south side of Newman's Sound called South Broad Cove, 3 miles distant from the North Cove, and lying S.W. by W. $\frac{1}{2}$ W. [S.W. by S.] from Black Duck Island. There is at its entrance a small island, which is clear except on the western side, where is a danger close to it. To enter it, steer so as to leave the island to the port, and when in mid-channel between it and the west side of the entrance, bear away to the anchorage which is toward the end, and between 10 and 11 fathoms depth.

BARROW HARBOUR.—The island called the *Little Denier*, which lies off the entrance of Barrow Harbour, is situate in latitude $46^{\circ} 41'$, and long. $53^{\circ} 37'$. The harbour, which lies south-westward of it, is safe and convenient: the entrance is about 500 yards wide, and not very difficult of access; the harbour is a mile long; the lower part is rocky, and not well sheltered; but the upper part is completely landlocked, and has good holding-ground. The course to this place, from Bonavista Gull Island, is N.W. by W. $\frac{1}{2}$ W., 22 miles.

On approaching Little Denier, you must be careful to avoid the *Outer Rock*, lying

three-quarters of a mile E. $\frac{1}{2}$ N. from that island. It has only 4 feet of water on it; but as the constantly breaks, it is easily guarded against. Between Little Denier and Richard's Islands, there is also a range of rocks, called the Brandishes, at distances from each other, and extending nearly half-way over toward Little Denier, with from 14 to 17 feet upon them; between are channels of 7 and fathoms. These make the northern channel preferable for strangers without a pilot. To run clear of the Brandishes, you must keep Wedge Point (the projection within the harbour) a little open to the southward of Smoky Ridge (a range of high land at the top of the harbour), until you bring Broom Head N. by E. $\frac{1}{2}$ E., on with the middle Shag Island. There is a small fishing establishment here; good water in Pudner's Cove, and abundance of fire-wood. The land about Barrow Harbour is higher than the neighbouring coast, and may be easily recognised by its projection.

NOTE.—All the wood on the coast-side is very diminutive, but it is, generally, much larger inland.

Damna Harbour (vulgo *Damnabie*).—The little island called Ship Island, lies in latitude $48^{\circ} 45'$, longitude $53^{\circ} 34'$ and at 8 leagues N.W. $\frac{1}{2}$ W. [W. $\frac{1}{2}$ N.] from Cape Bonavista; and Damna Harbour lies W. $\frac{1}{2}$ S. six miles from Ship Island. The island may be known by a remarkable bald point like a sugar loaf. The harbour is well adapted for small vessels, but its very narrow entrance disqualifies it for ships of burthen.

Morris Cove is a safe anchorage, situated on the North side of the island bearing that name, which lies to the northward of Damna: in sailing for it keep Ship Island well on board; as you will thus avoid the reef called the Ship Rocks, which lies to the northward. Having got inside Ship Island, avoid shutting in Lackington Rock with Varket Island (known by its forming two remarkable hummocks), as there are several clusters of rocks between Ship and the Horsechop Islands, on the South side: steer for the Varket until you are abreast of Lackington Rock, then keep Lackington Rock on the northern extremity of Ship Island until the Varket bears north, to clear two sunken rocks off the N.E. end of Morris Island: you may then sail directly for the Cove, which you can enter without fearing obstruction, and anchor in any part of it, in 25 to 5 fathoms, but the western side of the Cove is preferable. Wood plentiful; water scarce in the summer season.

To the N. and N.E. of Morris Island, there is a great number of islands, surrounded by rocks; the principal of which are *Willis*, *Cottel*, and *Pit-Sound Islands*, but they offer no anchorages, except some coves which are only frequented by the boats which cruise in these parts. From Ship Island, at the distance of 9 miles in the direction of E. by N. $\frac{1}{2}$ N. [N.E. $\frac{1}{2}$ N.] is Malone's Ledge, and from the same point, E. by N. $\frac{1}{2}$ N. [N.E. $\frac{1}{2}$ N.] 10 miles the rocks of the same name. These dangers also lie N.N.W. [N.W. by W.], 20 miles from Cape Bonavista. On Malone's Ledge there is 4 fathoms water. The South Brown Rocks lie N.N.E. $\frac{1}{2}$ E. [North] 4 miles from Malone's Rock. Five miles N.N.E. $\frac{1}{2}$ E. [N. $\frac{1}{2}$ W.] from Malone's Rock, are South Brown Rocks; Middle Rock lies N.N.E. [N. $\frac{1}{2}$ W.] 3 miles distant, and S.E. by E. $\frac{1}{2}$ E. [East] is a rock called Eastern Rock. These rocks are the outermost of those that extend from Ship Island to Offer or Outer Gooseberry Island.

NOTE.—“Mr. Juke's, in his ‘Excursions in Newfoundland’ (London, 1842), vol. ii. p. 91, describes the singular nature of some parts of this Archipelago. ‘In the passage between Trinity, or Lewis's Island (to the N.W. of Pit-Sound Island), and the Frying-pan, the bottom of the sea consisted of huge peaks and mounds of this white granite, rising from the deep and dark hollows. The extreme clearness of the water rendered these cliffs and peaks all visible as we approached them, though none reached to within three or four fathoms of the surface; and the sensation experienced in sailing over them was most singular, and to me very uncomfortable. I could not look over the boat without extreme giddiness, as if suspended on some aerial height, leaning over a tremendous gulf. The same sensation was described to me by a gentleman I afterwards met with, an experienced hunter and sailor, as assailing him upon his once, in smooth water, taking a boat within the space of some sunken rocks off the Wadham Islands, on which the water broke in bad weather. These rocks he described

as three peaks, rising from an apparently unfathomable depth; and the sensation, as his boat gently rose and fell between them, was so unpleasant, and indeed awful, that he gladly got away as fast as he could."

VARIATION.—It may not be unworthy of remark, that the polarity of the Needle is subject to several localities in different parts of Bonavista Bay, becoming gradually less as you get embayed; and this derangement is supposed to arise from the land's being impregnated with iron.

Gooseberry Isles, &c.—The Gooseberry Islands are a cluster of islets, near the middle of Bonavista Bay. The Offer or Outer Gooseberry is in latitude $48^{\circ} 58' 1''$, longitude $53^{\circ} 30'$. From Cape Bonavista, to sail clear of the Eastern Rock, which lies at a mile and a half to the E.S.E. of the Offer Gooseberry Island, the course is N. by W. $\frac{1}{2}$ W. and from thence to Copper Island (at the mouth of Greenspond Tickle) N. $\frac{1}{2}$ E. Here it is possible to obtain pilots for this and the adjacent anchorages, which are NORTH-WEST ARM, NEW HARBOUR, and CAT COVE; there is also good ground between Greenspond Island and the main; but the water is so deep, that a vessel is liable to drift on shore in the act of weighing, nor is there sufficient room to veer to a lengthened cable in heavy gales from the S.W., to which quarter it is much exposed.

NOTE.—"The course to Barrow Harbour, from the eastern Gooseberry Rock, is S.W. $\frac{1}{2}$ W. 18 miles; steering from the latter place to Barrow Harbour you have to void Malone's Ledge, a shoal lying S. $\frac{1}{2}$ W. one mile from the rock (above water) which bears the same name; it has never less than 4 fathoms, so that, in fine weather, no danger is to be apprehended.

SHIPS COMING IN FROM THE EASTWARD, to round *Cape Freels*, have to avoid the *Charge Rock*, which lies S.E. $\frac{1}{2}$ S. $2\frac{1}{2}$ miles from Cape Freels' Gull Island; the rock has only 6 feet of water upon it, and is circumscribed by a large spot of rough fishing-ground, having from 8 to 30 fathoms; from the Gull Island you may run immediately southward for the Stinking Islands, taking care not to open CAPE FREELS to the eastward of the Gull; this will carry you inside the danger; keeping a good look for the Mid-rocks, which are just above water, and lie two miles to the N.E. by E. $\frac{1}{2}$ E. of the Stinking Islands; but a vessel, not bound up the bay, is enjoined to keep well outside; for should the weather become suddenly thick and foggy (which is not unfrequent with an easterly wind) she runs a great risk of getting bewildered among the innumerable rocks for which this part of the coast is remarkable, and from which neither chart nor compass can direct the stranger.

At three-quarters of a mile N.W. from this Gull Island is a rock with 3 fathoms of water upon it. In the winter months, when the north-easterly gales are very heavy and continuous, the sea breaks exceedingly high over several spots of the Stinking Banks, which lie E.N.E. $\frac{1}{2}$ E. from the Stinking Islands: in two places there is as little as 7 fathoms; in such weather, although a vessel would not strike, she would be in very great danger of foundering in the tremendous sea which would be apt to break over her; but in fine weather, no danger of them is to be apprehended.

New Harbour is two miles to the westward of Shoe Cove Point. With easterly winds it is quite inaccessible, from its narrow entrance: in which case you must continue onward for *Cat Cove*, lying four miles farther up the bay on the same side. The Cove is formed by Cat Island; on sailing in, keep the island open on your starboard bow. Off the upper part of Cat Island lie two high green rocks, which you must round, the passage formed by them being too shoal to pass between: you may then run till you get some distance inside the upper point of the island, and then anchor in from 5 to 13 fathoms, with the hawse open to N.W., the winds from that quarter being in general most heavy and squally. In working in, you may stand close to either shore, except off the point of the island, as there is a sunken rock within 100 yards of it, with not more than 10 feet water.

NORTH-WEST ARM (lat. $49^{\circ} 6' 30''$) is the best anchorage near Cape Freels; but its access is not without difficulty, from the multiplicity of islands that lie in the neighbourhood, and which are almost undistinguishable from their great

semblance of each other: the greatest danger you have to encounter, in making this place from the southward, is the Northern Rock, which lies N.E. $1\frac{1}{2}$ miles from Copper Island (known by its height and without wood); it has never less than 22 feet of water upon it; so that, in fine weather, vessels which generally frequent this coast, may pass over it in perfect safety; but, in hard gales, the sea breaks over it incredibly high: to avoid it, be careful not to open FOOL'S ISLAND, at the entrance of N.W. Arm (which is somewhat higher and more prominent than the rest, and which is covered with trees, except the crown), to the westward of the Western Pond Rock, until you bring Butterfly Island to touch the inner point of Flower's Island, or until Puffin and Copper Islands touch each other; then leaving the Pond Rocks on the starboard hand, steer in for Fool's Island; which island it is advisable to keep well on board, as there is a sunken rock lying exactly in mid-channel, between it and Partridge Island Rocks, with 18 feet upon it; to clear which, it is impossible to give a *Descriptive Mark*. The course then into the ARM is N.W. $\frac{1}{2}$ W., and as soon as you get inside ODD ISLAND, you may anchor in muddy ground with from 7 to 9 fathoms, Fool's Island Hill bearing S.E. to S.E. by S. During the dry summer months, vessels are compelled to send to Loo Cove for water, nor is wood to be procured on this part of the coast within the distance of twelve miles.

Greenspond Tickle.—This is a small harbour in latitude $49^{\circ} 4'$ on the eastern side of Greenspond Island, formed by several smaller ones which lie off it, and is of very little importance, not being capable of receiving vessels whose draught of water exceeds 14 feet; it is impossible to get in with a foul wind; or with a fair one without a pilot. To sail into it, you must pass to the westward of Copper Island, in doing which you must cautiously avoid the Midsummer Rock, which lies one mile off south-westward from that island, and has only 6 feet of water on it: when you shut in Silver Hair Island, with Shoe Cove Point, you are inside the danger. Greenspond is a straggling place, and has several good houses and a church; but the inhabitants sometimes are in want of fresh water, being obliged to fetch it from the mainland, three miles off.

NOTE.—“The word *Tickle* is a local name, in common use at Newfoundland, and signifies a passage between islands or rocks.”

From Copper Island, in the direction of N.E. $\frac{1}{2}$ N. [N. by E.], which is the bearing of Cape Freels, the coast is strewed with dangers, the outermost of which bear about E. $\frac{1}{2}$ N. from Copper Island.

V.—THE N.E. COAST FROM CAPE FREELS TO CAPE ST. JOHN, INCLUDING THE BAY OF NOTRE DAME AND ARCHIPELAGO OF EXPLOITS.

CAPE FREELS is formed of three points, South Bill, Cape Freels or Middle Bill, and North Bill; it is lined with very dangerous rocks and shoals, and therefore, it is necessary to give it a wide berth. To the W. point of Cape Freels is a tolerably high hill called Cape Ridge; its position is lat. $49^{\circ} 15' 30''$ N. *Gull Island*, in long. $53^{\circ} 27'$, lies S.E. $\frac{1}{2}$ S. $2\frac{1}{2}$ miles from Cape Freels: it is clear, although at nearly a mile N. by W. from its western point there is a rock called Gull Island Rock.

FUNK ISLAND lies N.E. by E. 31 miles from Cape Freels; it is a low and sterile rock, 100 fathoms long from E. to W., and cannot be seen more than 10 miles off, but is easily known from the quantity of sea-birds constantly hovering over it. It is lat. $49^{\circ} 44' 15''$, and long. $53^{\circ} 13' 20''$. At 60 fathoms to the northward of it, is a sunken rock of 10 feet, on which the sea generally breaks.

Brenton Rock, between Funk Isle and the Wadham Isles; a dangerous rock, was discovered on the 28th of September, 1836, during a gale and a very heavy sea, by Captain Evan Percy, in the brig *St. John*, on the autumnal circuit with the

Hon. Judge Brenton. Heavy breakers were distinctly seen upon a rock bearing W. $\frac{1}{2}$ S. a little southerly, about 7 miles from Funk Island. The position is about lat. $49^{\circ} 41'$, long. $53^{\circ} 15'$.

At 7 miles N. by W. $\frac{1}{4}$ W. [N.W. $\frac{1}{4}$ W.] from Funk Island, it is said that a rock exists, but it was carefully sought for by Captain F. Bullock, and was not found by him. There is a shoal, discovered in 1841, called the *Cleopatra Shoal*; its position is doubtful, but it lies N.W. by W. [West] about 20 miles from Funk Island, and at $11\frac{1}{2}$ miles E. by S. $\frac{1}{4}$ S. [E. by N. $\frac{1}{2}$ N.] from Fogo Head.

Snap Rock, OR DURELL'S LEDGE.—At the distance of $22\frac{1}{2}$ miles N.N.W. $\frac{1}{4}$ W. [N.W. by W. $\frac{1}{4}$ W.] from Funk Island is the Snap Rock. The sea continually breaks on it, at least in moderate weather, and there is but 10 feet water over it.

CAT ISLAND lies N.N.W. $\frac{1}{4}$ W. 6 miles from Cape Freels; it is connected with the land by a tongue of sand covered by the sea. It is an excellent place for the fishery, and in summer is crowded, though in winter nearly deserted. Before arriving on the meridian of this island there will be seen on the coast to the south, a remarkable hill, called the *Windmill*. In coming from Cape Freels, care must be taken not to approach the coast too nearly.

DEADMAN'S OR TRÉPASSÉS BAY.—Deadman's Bay is formed on the S.E. by Cat Island, and on the N.W. by *Deadman's Point*; the soundings between them are from 6 to 10 fathoms, the greatest depth being near the point. It is partly sandy and very clean, but of little importance, as it does not offer any shelter against winds north of W.N.W. and E.S.E.

After passing *Deadman's Point*, to N. $\frac{1}{2}$ W. at the distance of $4\frac{1}{2}$ miles from the point are the two *Penguin Islands*. The coast on this part is low and sandy, and should not be closed without a pilot. *Ragged Harbour* is 5 miles N.W. $\frac{1}{4}$ W. from the larger *Penguin Island*, and is open to the N.E. without shelter. The passage to it between the *Penguin Islands* and the *Wadham Islands* abounds with rocks and shoals.

WADHAM ISLANDS.—These islands are seven in number, and form several channels between them, the widest of which is about $1\frac{1}{2}$ mile broad. The largest of the islands is *Beckford Island*, which is one mile long from N. to S.; it lies $2\frac{1}{2}$ miles E. by N. $\frac{1}{4}$ N. [N.E. $\frac{1}{4}$ N.] from Cape Freels. The easternmost, and also the most to the N., is called *Offer Wadham*.

Offer Wadham Island Light is a steady or fixed light, shewn from a circular brick tower 96 feet above the sea; seen 12 miles off. First shewn the 4th of October, 1858. Latitude $49^{\circ} 36' N.$, longitude $53^{\circ} 46' W.$

One mile and three-quarters to the E.S.E. of the lighthouse, is the E.S.E. Ground, a shoal on which there is but 10 feet water. To the S.S.W. lies the S.S.W. Rock; and between these two reefs, and nearly a mile S. by W. from *Offer Wadham*, there is a rock called *Tom Cod's Rock*. As before stated, to the S. of *Peckford Island*, there are, between it and the coast of Newfoundland, several reefs and shoals, which render this passage very difficult: the best passage, if it is necessary to traverse these islands, is between *White Island* and *Duck Island*, or rather between this last and *Copper Island*, in mid-channel. *White Island* is the only one which is quite clear all round; it may be approached with safety. On the *Wadham Islands*, the sea-fowl, called *Mother Cary's Chicken*, breed in vast numbers. These birds make holes in the ground, in which they lay their eggs; generally consisting of three or four.

To the N.W. of *Copper Island*, at the distance of 2 miles, is a bank called the *Rocky Fishing Ground*, on which there is from 15 to 28 fathoms depth of water; and around it the depth is between 32 and 44 fathoms. It is $2\frac{1}{2}$ miles long.

Rocky Bay.—At the distance of $10\frac{1}{2}$ miles W.S.W. from *Copper Island* is *Rocky Point*, situate in latitude $49^{\circ} 25' 15''$, longitude $54^{\circ} 10' 45''$, forming the entrance of *Rocky Bay*, which is shut in by three islands, *White Island*, *Green Island*, and *Noggin Island*, the passages between which are quite clean. At the bottom of *Rocky Bay* are three coves, but they are so rocky, that vessels cannot anchor in them, unless it is

in that to the S. of Noggin Island, which is rather better than the others; but this ought not to be used but in passing.

FOGO ISLAND.—CAPE FOGO, the western extremity of the island, lies N.N.W. $\frac{3}{4}$ W., $9\frac{1}{2}$ miles from the Offer Wadham Island, of which we have given the position. Fogo Island is $13\frac{1}{2}$ miles in its greatest length from E. by N. to W. by S. The northern side of the island is very bare and rocky, with lofty headlands rising perpendicularly from the sea. It has several harbours, which are, on the north, Shoal Bay and Fogo Harbour; on the west, Hare Bay; on the south, Stag Harbour, Seldom-come-by Harbour, and Little Seldom-come-by Harbour; and lastly, on the East, Tilton Harbour.

Shoal Bay.—The largest of all these harbours is Shoal Bay. In making for this harbour, coming from the East, keep in-shore to avoid Dean's Rock, which is under water, $1\frac{1}{2}$ mile N.W. by W. $\frac{1}{4}$ W. from Joe Batt's Point, and N. W. $\frac{1}{4}$ N. nearly a mile from the west point of Shoal Bay. The depth of water in this bay, at an equal distance from either shore, is from 10 to 14 fathoms, diminishing toward the land. It is open to N.E. winds. A vessel can anchor in it in 5 or 8 fathoms, at the end, on the starboard side in entering, leaving to the larboard, all the islets and rocks at the bottom of the bay. This anchorage is called the Watering Place.

Fogo Harbour is considered as a good fishing place, but its entrance is difficult and dangerous. There is a *current*, running to the S.E., chiefly when the winds are from the West; this must be avoided as much as possible by keeping close in-shore on Fogo Island, until the entrance to Fogo Harbour is clearly seen; it is narrow and shut in by several islets; as soon as this is seen, steer directly in the middle, where the depth will be 8, 5, and 4 fathoms; this entrance is called *West Tickle*. When within, if it is thought proper to anchor in the Western Bay, steer S.S.E. $\frac{1}{2}$ E. towards the eastern side of the harbour, until the point called *Fogo Head* is on with the heights in N. by W. $\frac{1}{4}$ W., in order to avoid the reefs off this point, which extend easterly, as far as the Harbour Rock, which lies in the middle of the passage and shows but seldom, except sometimes at low water of spring tides; after this, run S.W. by S. and close in to the W. by S. or W. by N. to anchor in $4\frac{1}{2}$ or $5\frac{1}{2}$ fathoms, good holding ground and well sheltered. This harbour is very small, and it merits the attention of those who enter in here.

To the South of Fogo Harbour, there is another, called *Hare Bay*, which runs to the South. The entrance by closing in with the port side is not difficult.

The other harbours have such narrow entrances, and otherwise so embarrassed with dangers, that it would be imprudent to attempt them without a pilot.

SHOALS TO THE NORTH OF FOGO.—To the N.E. of Fogo, there are several reefs, the outermost of which are as follows: to the N.E. $\frac{3}{4}$ E. [N. by E. $\frac{3}{4}$ E.] 8 miles from the extremity of Cape Fogo, is the Inspector Rock, which breaks in bad weather. From the same Point, $8\frac{1}{2}$ miles N.E. by E. [North] are the Barrack Rocks, extending above a mile in a S.S.E. and N.N.W. direction. To the N.N.E. $\frac{1}{4}$ E. [N. $\frac{3}{4}$ W.] at the distance of $11\frac{1}{2}$ miles, lies Ireland Rock, which sometimes breaks. This shoal is the northernmost of those that surround Fogo Island, and is situated in lat. $49^{\circ} 51' 50''$, and long. $54^{\circ} 4'$. From this rock, in the direction W.N.W. [W. by S.] are several reefs, the chain of which, after a distance of 7 miles, runs W. by S. to within 2 miles off Fogo Head, the N.W. point of the island: it is a bold precipice, 500 feet high.

BAY OF NOTRE DAME.—Here commences the large Bay of Notre Dame, which comprehends the ARCHIPELAGO OF EXPLOITS, and the bays within it. It may be considered as limited on the E. by the W. point of Fogo Island, and on the W. by Cape St. John. The outermost dangers of this bay are as follows:—

To the N.W. $\frac{1}{4}$ N. from Fogo Head, $6\frac{1}{2}$ miles distant, is the reef called *Berry's Ground*, on which the sea generally breaks, although it is covered with 40 fathoms water. *Bacalieu Island*: the middle of this island is in lat. $49^{\circ} 41' 50''$, and long. $54^{\circ} 34' 48''$, and has no shelter whatever for vessels. To the N. W. $\frac{1}{4}$ W. [W. $\frac{1}{4}$ N.] 10 miles from the N.E. point of Bacalieu Island, is *Old Harry Shoal*, on which there

is but 16 feet water: this danger generally breaks, and is only 2 miles N.E. $\frac{1}{2}$ N. from *Shag Rock*, at the N.W. point of *Toulinguet Island*.

TOULINGUET.—The harbour of Toulinguet or Twillingate Island, is exposed to N. and N.E. winds. The sea comes in very heavily, and it is otherwise of little service. The island is the resort of the fishers, and the most northern British settlement, except Fogo Island. It contains, with Fogo, &c., above 4000 inhabitants.

To the south of Toulinguet is **NEW WORLD ISLAND**, which forms, with it, a channel called *Main Tickle*. and to the S.W. a bay named *Fridays Bay*; the depth of water varies considerably, particularly in the bay.

New World Island possesses several harbours; the most frequented are *Herring Neck*, *Morton's Harbour*, and *Chance Harbour*: all three will shelter vessels anchoring in them.

In proceeding to *Morton's Harbour*, coming from the North, care must be taken to avoid the *Old Roger Shoal*, which lies W. $\frac{1}{2}$ N. [S.W. by W. $\frac{3}{4}$ W.] 4 miles from the N.W. point of Toulinguet, and $3\frac{1}{2}$ miles N.E. by E. [North] from Western Head on New World Island. Having taken this precaution, steer, according to the wind, either toward Gull Island off Western Head, or directly for the entrance of the harbour; the coast is clear at less than half a mile. When the entrance is well made out, proceed into it, keeping at an equal distance from either side, until arrived off the heights of a small peninsula, which must be left to the port, passing it to anchor behind it, in 10 or 11 fathoms water.

Chance Harbour cannot be entered without some knowledge of it, as there are dangers in approaching it which cannot be avoided by written directions.

Twelve miles and a half W. by N. [W.S.W. $\frac{1}{2}$ W.] from Gull Island, is entrance of the bay, at the end of which is *Fortune Harbour*. The N.W. point is in lat. $49^{\circ} 32'$, and long. $55^{\circ} 16'$. It is a good, but intricate harbour, the entrance being extremely narrow and dangerous, and the winds baffle from the high lands around. It is inhabited only during the fishing season, and in summer, water is scarce.

Triton Harbour lies $26\frac{1}{2}$ miles W. by N. $\frac{1}{2}$ N. [W. by S.] from Gull Island. It is on the N.E. side of Great Triton Island. Its entrance lies between the isles called Great and Little Denier: the shoals are bold, and water deep, but there are coves in which secure berths may be found. The land is covered with spruce, birch, and fir, but the quantities have been much reduced by the annual cutting. Water in general is plentiful here.

To the North of Triton Harbour is *Long Island*, on the N.W. side of which is *Cutwell Harbour*; the east point of the harbour is in lat. $49^{\circ} 37'$, long. $55^{\circ} 41'$, and lies $8\frac{1}{2}$ miles N.W. by W. $\frac{1}{2}$ W. [W. $\frac{1}{2}$ N.] from Gull Island. It has so spacious an entrance, that the largest ships may beat into secure anchorage in from 10 to 5 fathoms, sand and mud.

If a vessel is forced by stress of weather to pass between Gull Island and Western Head, the middle of the channel must be avoided, on account of a rock which lies there, and therefore the passage must be made on either shore.

In *Hall's Bay*, which lies in the south-western angle of Notre Dame Bay, and the entrance of which is S.S.W. $\frac{1}{2}$ W., 21 miles from Cape St. John, is a salmon-fishery.

Nippers Harbour, to the north-westward of the Nippers Isles, is a little confined harbour, yet the most secure on the shore of Cape St. John, with an excellent anchorage in 7, and in the outer part, 14 fathoms. The land around is high and barren, but well supplied with good water, and may easily be known by the isles.

From Gull Island, at the west point of New World Island, to Cape St. John, outside the islands, there is no danger which is more than a mile from the land: thus a vessel can always tack within this distance, and if it is necessary to go more inwards, there are several points where there is room.

Bishop's Rocks lie S. $\frac{1}{2}$ W., $2\frac{1}{2}$ miles, from Cape St. John. It is a reef over which the sea breaks in bad weather, and is about 600 yards in diameter; there is from 29

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VI.—THE EASTERN COAST AND WHITE BAY, FROM CAPE ST. JOHN TO CAPE NORMAN.

CAPE ST. JOHN is in latitude $49^{\circ} 57' 30''$ N., and longitude $55^{\circ} 29' 20''$ W. It lies S. by E. $\frac{1}{4}$ E. [S.E. $\frac{1}{4}$ E.] 30 miles, from Toulouquet Island, and is high and steep. It is the southern limit of the French fishery on the eastern coast of Newfoundland.

At $4\frac{1}{2}$ miles E.N.E. from Cape St. John is *Gull Island*, which is quite safe all round; the depth between it and the coast varies between 39 and 64 fathoms; at a mile to the east there is 82 fathoms.

La Scie Harbour is the most southern port occupied by the French fishers. From Cape St. John, hither, bear north for $2\frac{1}{2}$ miles to double the point called North Bill, then N.W. by W. $\frac{1}{4}$ W. $1\frac{1}{2}$ mile, and then W. $\frac{1}{4}$ S. [S.W. by W.] for $3\frac{1}{2}$ miles, to clear to the northward of Point Lachenais, which is that on the left of the entrance of the harbour. The whole of the coast is safe, and can be, if the wind will permit, kept close the whole distance. *La Scie Harbour* is exposed to northerly winds, which cause a heavy sea.

To the N.W. by W. $\frac{1}{4}$ W. of Point Lachenais, $3\frac{1}{2}$ miles distant, is a shoal, lying nearly half a mile north of *Cape Brent*, which is very remarkable from a high mountain; the sea breaks over this bank at all times, and particularly on the uncovered rock. *Cape Brent* forms the entrance of Confusion Bay, in which is Harbour Round; to make which, on leaving *Cape Brent*, bear S.W. $\frac{1}{4}$ W. [S. by W. $\frac{1}{4}$ W.] 3 miles. The entrance to the port is narrow, but without danger; there is never a heavy sea, and if it is wished, you can anchor outside the port, in the first cove, in a depth of 9 or $10\frac{1}{2}$ fathoms, good ground. At one mile N.E. $\frac{1}{4}$ E. from Harbour Round is Brent Cove, called by the French, *Petit Coup de Hache*; it is a fishing-place for boats.

On leaving Harbour Round for *Pacquet Harbour*, do not approach the left-hand shore too nearly, as there is a rock about midway between the entrance of the harbour and the point which forms the entrance of the lower part of Confusion Bay; it is close in-shore. This last bay is not frequented, as it is open to the winds from the N.E.

Pacquet Harbour.—From Harbour Round to *Pacquet Harbour*, first steer E.N.E. for 2 miles, then N.W. by N. [N.W. by W. $\frac{1}{4}$ W.] $3\frac{1}{2}$ miles, taking care to avoid the rocks which lie three-quarters of a mile from the *Gros Morne*.

Pacquet Harbour may be known at its entrance by the high lands which lie to the S.; it is very safe, and can be used by all vessels. The position of the *Gros Morne* is in lat. $49^{\circ} 58'$ N. and long. $55^{\circ} 51' 28''$ W. At the starboard point, which is low, are three small rocks and a shoal. The depth of water in the entrance is 23, 21, and 19 fathoms; the harbour then separates into two arms; the one to the N.W., where the fishing establishments are, is commonly called *Pacquet*, and the other, to the S.W., is called by the French the *Baie de Paris*. In the north-western arm, and a little on the left-hand on entering, is a shoal, on which there is but little water; it is uncovered sometimes. In the *Baie de Paris* the depth is 20, 18, 13, 11, 9, and 6 fathoms, and when this last depth is attained, you ought to anchor; it is good holding ground, and moor in the direction of the coast. The entrance to *Pacquet Harbour* ought never to be attempted with a strong breeze from between the N.W. to the S.W., as the land-squalls here are very strong and changeable, and it would be dangerous to miss stays in a place so narrow as this; it would be better to lie-to outside till the wind dropped, or if bad weather should be feared, to make for Harbour Round before night.

St. Barbe or Horse Islands.—At 14 miles N.E. by E. $\frac{1}{4}$ E. [N.N.E. $\frac{1}{4}$ E.] from the entrance of *Pacquet Harbour*, is the S.E. point of *Great St. Barbe Island*; the smaller island is N.N.E. from the same, at the distance of 13 miles. Between these

two islands is a clear and good passage, with a depth of 36 to 44 fathoms, with black mud. The rocks which border these islands are too near the shore for a vessel to fear them, with the exception of those which are at the eastern point of the larger island, some of which are half a mile from it. To the N.E. of the centre of this island, at nearly $1\frac{1}{2}$ mile distant, there is also a rock, around which is from 13 to 18 fathoms.

Hardy Harbour.—Wood Island lies N. $\frac{1}{2}$ E. 3 miles from Pacquet Harbour, forming Hardy Harbour; it is a good fishing-place, but inconvenient during strong winds at sea, on account of the difficulty that boats find in entering. The N. shore of Wood Island must not be approached too near, on account of the rocks, which extend from 300 to 400 yards from it.

Ming's Bight.—At 4 miles N.W. by W. of Wood Island, is the entrance of Ming's Bight, or *Baye des Pins*, at the end of which there is an anchorage; but, besides that, this bay offers few resources for the fishery; it is inconvenient from its distance from the ships, thus it is but little frequented. There is no danger, but a shoal on the left-hand shore, which extends 400 yards at the most from the shore, and which is two miles from the islet. There is abundance of timber in this bay. Leaving the Ming's Bight, going to the westward, we come to the *Ming's Islands*, or the *Isles of Pines*; these consist of two large rocks, having between them and the W. point of the bay, a passage. To the west of these Islands is GREEN BAY, which is about ten miles deep, and three in its greatest width. At the entrance of this bay, in the direction of N. $\frac{1}{2}$ W. and at a distance of $1\frac{1}{2}$ mile from Ming's Islands, is a low rock, called *The Sisters*, around which the sea almost continually breaks; and to the N. by W. $\frac{1}{4}$ W. from this, at half a mile distance, is a shoal, on which there is but three feet water. These are dangerous shoals.

From Isle of Pines to *Pigeon Islands*, which forms the southern entrance of Fleur-de-Lis Harbour, the route is N. $\frac{1}{2}$ W., and the distance $5\frac{1}{4}$ miles. On the north side of this island, but close to it, is a small rock.

Fleur-de-Lis Harbour is difficult to distinguish when near the shore, although when at a sufficient distance, its position is indicated by a mountain over it, which has the form of the head of a fleur-de-lis, and from which it derives its name.

There is no danger to be feared in approaching the entrance; but when in the harbour, it will be necessary to keep close on the right-hand shore, to avoid a rock, on which there is but 5 or 6 feet water, and which lies nearly two cables' length east of the south point of the harbour islet. When within the islet, you can anchor in $3\frac{1}{2}$ to $4\frac{1}{2}$ fathoms, sheltered from all winds.

WHITE BAY.—At $2\frac{1}{2}$ miles N.W. from the point which forms the starboard entrance of Fleur-de-Lis Harbour, is *Partridge Point*, situate in lat. $50^{\circ} 9' 20''$, and long. $56^{\circ} 9' 50''$ W. It forms the south point of the entrance of White Bay. The western point of Little St. Barbe Island bears E.S.E. 10 miles from it. The depth of White Bay is more than 46 miles, and above 16 in breadth; it is very safe in its whole extent. Generally, at two miles from the south shore, there is no bottom at 90 fathoms; nor on the north shore at 70 fathoms; and this continues proceeding into the bay until within a mile of the *River Head*, or nearly at the end, close to a small isle called *Miller Island*. The current runs out of this bay on the south side, bears S.E. $\frac{1}{2}$ E. to the heights of Cape Partridge, and enters the bay on the north side.

Lobster Harbour lies W.S.W. $\frac{1}{2}$ W. [*S.W. $\frac{1}{2}$ S.*] at a distance of 12 miles from Point Partridge; it is a small port of a circular form, having a very narrow entrance, and in which there is but 7 or 8 feet water, although there is found a depth of $10\frac{1}{2}$ and $11\frac{1}{2}$ fathoms when inside. Vessels of a slight draught of water can enter at the proper state of the tide; but it is as well to remark that the tide rises but 4 feet at neap and 6 feet at spring tides, and which is the case in the whole of the bay. It is high water, full and change, at $6\frac{1}{2}$ hours. It is necessary, in entering Lobster Harbour, to keep on the port shore till to the west of the south point of the entrance, on the north of which there is a small rock near the land.

At 4 miles S.W. by W. $\frac{1}{2}$ W. from Lobster Harbour, is the *Southern Arm*, the first indentation met with in proceeding along the coast from Partridge Point; it is a large

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and safe harbour for a man-of-war; the anchorage is in 15 to 17 fathoms. When the port hand point is shut in by that of the starboard, a second point will be seen in a S.E. direction, which leaves, between it and the coast, a very small passage, entirely closed by a mussel-bank, which dries at low water.

To the S.W. by W. $\frac{1}{2}$ W. of the W. point of the South Arm, and $1\frac{1}{2}$ mile distant, is the *Middle Arm*; at the entrance is a small rocky isle, from whence runs a bank, on which there is but from 5 to 10 feet water. This port cannot be used but by very small vessels.

Hauling Point bears W. $\frac{1}{2}$ S. [*S.W. $\frac{1}{2}$ W.*] $6\frac{1}{2}$ miles from the point of the Middle Arm; it forms the entrance of the Western Arm. This part of the coast is not so clear as the parts just described, but by keeping at a distance of one mile, the rocks and shoals may be avoided, and of which, those farthest out are near the Pigeon Islands, and the two points we have just mentioned. The Western Arm extends for 2 miles to the S.E., and vessels can enter in safety in 14 and 15 fathoms water; at the entrance, to the N.E., is Bear Cove, where small vessels can moor, sheltered from the wind in $10\frac{1}{2}$ fathoms. There is a second called Wild Cove, exposed to winds from the N.W., and with a rocky bottom. This part of White Bay is much narrower, it not being more than $6\frac{1}{2}$ miles. The N. point of Sop Island bears W.N.W. $\frac{1}{2}$ W. [*W.S.W. $\frac{1}{2}$ W.*] from Hauling Point, 8 miles distant; and that of Cony Arm Head, N. $\frac{3}{4}$ W. [*N.W. by N. $\frac{1}{2}$ N.*] at a distance of 9 miles.

Proceeding to the S.W., towards the bottom of the bay, at 3 miles from Hauling Point, there is a small inlet called Purbeck Cove, where vessels can safely anchor in 10 and 11 fathoms. This is the last anchorage on the S.E. side of White Bay, and its approach is without danger.

Sop Island, bears W. $\frac{1}{2}$ S. [*S.W. $\frac{1}{2}$ W.*] 53 miles from Partridge Point; near its South side is a small island called Goats' Island; they form together, a long passage called Sop's Arm; a vessel can anchor just within the northern extremity of Sop Island, where from 20 to 28 fathoms water will be found.

At the distance of $3\frac{1}{2}$ miles N.E. [*N. by E.*] from the North point of Sop's Island, is the entrance of *Jackson Arm*, in which there is a depth of 23 to 25 fathoms, except in a small bay called *Godfather Cove*, lying on the right-hand in entering, and in which a vessel can moor fore and aft. This port produces the best timber of all those in White Bay. *Frenchman's Cove* is $2\frac{1}{2}$ miles N.E. by E. $\frac{3}{4}$ E. [*N.N.E. $\frac{3}{4}$ E.*] from the entrance of Jackson Arm, after doubling a low point which advances a little to the S. by E.; it offers a good and safe anchorage in 9 or 11 fathoms.

Proceeding from the entrance of Frenchman's Cove N.E. $\frac{3}{4}$ N. [*N. by E.*] 4 miles, we come to *Cony Arm Head*, which is the most remarkable land on the western side of White Bay; it lies W. $\frac{1}{2}$ N. [*S.W. by W. $\frac{1}{2}$ W.*] $25\frac{1}{2}$ miles from Partridge Point, and advances, nearly in a straight line, in the form of a peninsula, leaving between it and the continent, Great Cony Arm, which affords no shelter to the fishing vessels.

Three and a half miles north of Little Cony Arm, is *Devil's Cove*, which is very narrow, and open to winds from the S.E.; its depth is about $4\frac{1}{2}$ fathoms. To the N.W. by W. $\frac{1}{2}$ W. [*W. $\frac{1}{2}$ S.*] $18\frac{1}{2}$ miles from Partridge Point, and also N.E. by E. [*N.N.E. $\frac{1}{2}$ E.*] $10\frac{1}{2}$ miles from Cony Arm Head, is *Great Cat Arm*, and $2\frac{1}{2}$ miles farther in the same direction, *Little Cat Arm*. At the end of the arm it is quite safe and sheltered by the land. At the end of the north point lie some rocks, which are above water; to avoid them, keep quite close to the south shore; but in going into Little Cat Arm, it is better to keep on the north side, as there is a rock near the land on the opposite side. To the N.W. $\frac{3}{4}$ N. [*W. by N. $\frac{3}{4}$ N.*] 15 miles from Partridge Point, and N.E. by E. $\frac{3}{4}$ E. 6 miles from Little Cat Arm, is Little Harbour Deep, much exposed to winds from the eastern quarter, and by no means good as a harbour; the height of the land frequently causes sudden and strong gusts of wind, when it blows from between the S.W. and N.W. The north point of Little Harbour Deep, is that of the peninsula which separates it from Union or Grandes Vaches Cove. This harbour has no more shelter than the former, and is but little, if at all frequented.

From the north point of *Grandes Vaches*, running 7 miles N.E. by E. $\frac{1}{2}$ E., we meet with *Orange Bay* or *Great Harbour Deep*, which is easily recognised by the low lands at its entrance, which are less elevated than any of the coasts north of *White Bay*; it is distant 16 miles N. $\frac{1}{2}$ W. [*N.W. $\frac{1}{2}$ N.*] from *Partridge Point*; this bay is spacious, and has on the north side of the entrance a small cove, that is frequented by the fishing vessels.

Fourché Harbour.—In proceeding along the coast to the north-east, the next is *Fourché Harbour*, at a distance of 10 $\frac{1}{2}$ miles from the entrance of *Orange Bay*. This harbour runs to the west for 2 miles from its south point, then to the north, forming a small bay, and then continues to the west. It is in this northern bay, which is very narrow, short, and surrounded by very high land, that vessels anchor in 16 fathoms water, mooring fore and aft; but it can only receive small vessels; if ships are necessitated to enter *Fourché*, they are obliged to proceed to the end, nearly 3 $\frac{1}{2}$ miles, to anchor in 18 fathoms.

Hooping or Sans-Fond Harbour, lies N.E. $\frac{1}{2}$ E., 5 miles from the north entrance of *Fourché Harbour*; it separates into two bays, one to the north, the other to the west. You can anchor in the northern bay in 6 fathoms; it is in reality exposed to winds from the south, but there is no danger, if the vessel is properly moored; in the western bay it is more sheltered, but the depth there is not less than 20 or 16 fathoms. The anchorage in the north bay, is that also recommended by *Captain Bullock*, having been occupied by his ship, while surveying this coast.

Canada or Canary Bay.—*Canada Head*, on the south side of the entrance of the bay of the same name, is very high land, and may be distinguished at a great distance, in coming from the north or from the south, but from the high lands of the interior at its back, is difficult to be recognised in coming directly from the east. It is situated 5 miles N.E. by E. $\frac{1}{2}$ E. [*N.N.E. $\frac{1}{2}$ E.*] from *Hooping Harbour*.

The entrance of *Canada Bay* is nearly 2 miles broad; formed, on the south by *Canada Head*, and on the north by *Point Aiguillettes*; the bay is upwards of 12 miles long; is divided into several arms, which are very safe, and consequently can give shelter to vessels that are obliged to make for them, from strong winds at sea. Among these anchorages are *Biche's Arm* and the *Gouffre*. If a vessel is obliged to seek shelter in *Canada Bay* on account of bad weather, with the wind between south and east, it can anchor in *Biche's Arm*, on the north-east of *Englée Island*, between it and the coast eastward of it, or at the end of *Biche's Arm*. To make for the first of these anchorages, on entering *Canada Bay*, a berth must be given to *Point Aiguillettes*, so as to pass it at 5 cables lengths, proceeding till the most westerly part of the cape is to the north; then steer along *Englée Island*, which is only divided from the continent by a few islets, keeping close, so as to anchor on its north-east side, between it and the land; the depth is great, but the holding ground is good, and there never is a heavy sea. In this passage, there is no other danger but the rock which lies off *Point Aiguillettes*, about 700 or 800 yards distant.

To proceed into *Biche's Arm*, bear to the north, after passing *Englée Island*, taking care to keep nearer to the eastern shore than to the western, and anchor when 18, 16, or 14 fathoms are attained. There is no danger in this arm, after having avoided those of *Point Blanche*, which lies to the N.N.E. of *Englée Island*, and which is bordered with dangers, particularly on its west and north sides. The rock which is farthest off from it, is W. by S. $\frac{1}{2}$ S. [*S.W. $\frac{1}{2}$ S.*] nearly one mile distant, and N. by W. $\frac{1}{2}$ W., one mile from the south point of *Englée Island*. This rock is never uncovered. Within the southern extremity of *Englée Island* there is an anchorage for small vessels; and boats can, at half-tide, pass between the island and the continent, from this to the anchorage on the north-east side before mentioned.

The best anchorage in *Canada Bay* is, without doubt, that of the *Gouffre*, which is to the west 3 $\frac{1}{2}$ miles from the north point of the bay. To make for this harbour, after leaving the north point of the bay, steer towards it, until a white point which trends a little to the north is seen ahead, and which must be passed at a little distance; as soon as this is doubled, bear towards a small rocky islets, which often appears part of the land, and when this is recognised, stand to port and enter the harbour, dropping

the first anchor a little within the islet, and mooring N.W. and S.E. The depth in this anchorage is from 14 to 15 fathoms, good holding ground, and sheltered from the wind and sea. By attending to the lead a small vessel can tack into this small harbour, there being a great depth of water close to the shore. Coming from the South, the direction of the White point of the entrance of the Gouffre des Canaries is N. W., and the distance to run $1\frac{1}{2}$ mile.

Canada Harbour, which is the first on the port side entering the bay from which it derives its name, is exposed to winds from N.E. The anchorage is very bad, and the bottom rocky; it would be imprudent to anchor here, as a vessel would be exposed to great damage if the wind should blow strongly from between north and east; it is not frequented except by the fishing-boats, the ships belonging to the fishery anchoring in the Gouffre. The fishing establishments of Canada Bay are in Canada Harbour.

There are other anchorages in the North or Chimney Arm, such as *Beaver Cove*, but they are too distant, unless a vessel finds itself obliged to put into them.

HILLIER'S OR BOUTITOU HARBOUR.—Proceeding from Canada Bay to the E. by N. for $4\frac{1}{2}$ miles from Point Aiguillottes, we arrive at Hillier's or Boutitou Harbour, which is a good fishing-place, but too small for more than three vessels to lie in safety: it is separated into two small bays by a high point; it is in the first of these bays to the starboard in entering; that the anchorage is; the depth at the entrance is from 16 to 18 fathoms, and vessels moor fore and aft, hauling as much as possible into the bay. Half-way between Point Aiguillettes and the north point of Hillier's Harbour, is a reef running about 600 yards from the shore; all the rest of the coast is without danger. At the distance of $6\frac{1}{2}$ miles E. by N. [*N.E. $\frac{1}{2}$ E.*] from Hillier's Harbour, lies *Fox Cape*, the south point of a peninsula of a peninsula, forming, with the coast, the entrance of Conche Harbour; at the foot of Fox Cape, which is high and perpendicular, is a shoal, which extends nearly 600 yards in a southerly direction.

Conche Harbour is open to winds from the S.S.W. and S.E., which send a very heavy sea into it, notwithstanding which, vessels anchor before the fishing establishments, mooring fore and aft. There is also anchorage at the end of the harbour, near the isthmus of Cape Rouge Harbour, in 5 fathoms. There is no danger in the harbour.

Cape Rouge.—Cape Rouge Harbour is one of the largest on the coast of Newfoundland; its entrance is two-thirds of a mile broad, and a vessel can easily beat into it; wood and water are also obtained here. From Fox Cape, the distance hither is rather more than three miles to the S. point of the entrance, which is called *Point Frauderesse*, in lat. $50^{\circ} 54' 30''$ N. and long. $55^{\circ} 51' 52''$ W. The *Frauderesse* is a shoal, near the point, which projects nearly 400 yards to the N.E. From this shoal to the S.W. end of the harbour, the coast is lined with flat rocks, which render it necessary not to approach too near: the Champ-Paga is a rocky bank, of which the S.W. extremity lies exactly W., true, of the *Frauderesse*, and the N.E. part W.N.W. of the cape forming the northern side of the harbour; its centre, on which there is but 6 or 7 feet of water, is in the direction of the *Frauderesse*, on with the most southern point of Groais or Groix Isle; it lies at an equal distance from each side of the S.W. part of the harbour, so that it may be avoided by keeping two-thirds of the breadth of the channel from either coast, after passing Point *Frauderesse*. Many vessels anchor here, as the fishing establishments are to the S.W., but the bottom is not very good holding ground. It is better to anchor in the northern Arm, and all large ships or men-of-war ought to anchor here; the entrance is easy, and there is nothing to fear at a cable's length from the shore. To the S.E. of Point *Frauderesse*, at the distance of $2\frac{1}{2}$ miles, is a small islet called *Rouge Island*, which is quite safe all around; the soundings between it and Cape Rouge Harbour are 18, 32, 31, and 14 fathoms. On leaving Cape Rouge Harbour the land runs to the N.E. to the *Gonde Mountain*, which is peaked and joined to the land by a low isthmus, and appears as if separated from it.

BELLE ISLE SOUTH.—The N.E. point of this island is in lat. $50^{\circ} 48'$, and long. $55^{\circ} 29'$; it is 9 miles long from N.E. to S.W., and 6 broad from N.W. to S.E. It is safe all around except on the south, where there are several rocks, both above and

beneath the water, some of which are more than two miles from the land. The most distant is nearly half a mile to the W. of a rocky islet lying S. of the Belle Isle, named *South Rock*: it is S.E. $\frac{1}{2}$ E. [*E. by S.*] at a distance of 19 miles from Point Aiguillettes. The harbour of Belle Isle is on its S.W. side; it is very incommodious, and can receive but one or two vessels at most. Between the reefs on the S.W. side of the island and the South Rock, the passage is more than a mile broad; the depth of water varies from 7, 12, 17, to 24 fathoms, the depth increasing nearer the Rock, and diminishing toward the reefs. On the south part of the west side of Belle Isle is *Green Island*, which is small and about a third of a mile from the shore; about 600 yards to the N.W. of this is a shoal, near which is 16 fathoms.

Groais Island.—The channel between Groais and Belle Isle is $5\frac{1}{2}$ miles broad, and generally the bottom here is of brown mud mixed with rotten shells. There is no shoal or danger in this passage. Groais Island is very high, and its surface is even; its N.E. point is in lat. $50^{\circ} 58' 30''$, and $55^{\circ} 33' 30''$. It is nearly 7 miles long from N. to S. and $3\frac{1}{2}$ miles in its greatest breadth. It is very safe on its E., S., and W. sides; but to the N.W. there are several rocks above and beneath water, which extend to the North. To avoid these rocks, keep the north point of the island always to the S. of S.E. $\frac{1}{2}$ E. At the N.E. point are three small islands called the *Sisters*, but they ought not to be passed too closely.

From Gonde Mount, at the north extremity of Cape Rouge, the coast runs to the W.N.W. for nearly a mile and a half, and then again to the E. by N. for 6 miles, as far as *Cape Vent*, forming a large bay. If the mountains on the coast should be covered with the fog on approaching the land, Cape Vent or Cape Rouge may be easily found, according as it is from the north or south that they are sought.

Croc Harbour.—The entrance of this harbour is formed on the S. by Cape Vent, which is in lat. $51^{\circ} 2' 25''$, and long. $55^{\circ} 47' 52''$, and on the N. by *Grouts Point*. At the foot of the cape there are two black, rocky islets, which leave between them a passage for boats, when the sea is calm; a ship can pass quite close to the outer one. The entrance of Croc Harbour is two-thirds of a mile wide; the S.W. bay offers no shelter from N. or N.E. winds; and consequently is never used. A small vessel drawing 9 or 10 feet water can, however, run to the end of the bay, and lie between the S.W. islet and the fishing establishment called *Petit-Maitre*, opposite the fishing stage of this place, but it will be necessary to moor fore and aft. From the entrance of the S.W. bay, the harbour runs N. by W. and at $1\frac{1}{2}$ mile divides into two arms, one to the N., the other to the S.W.; the first is called the *Fond*, and the other *Epine-Cadore*. There is anchorage in any part of Croc Harbour, the depth not being more than from 22, 19, 18, 16, 10, and 9 fathoms, though all parts of the bay are not equally good; a vessel is well moored (N. and S.) when Cape Vent is shut in by *Point Genille*; the depth then is 18 or 19 fathoms, and the bottom of hard mud of a slate colour. The winds which are strongest in Croc Harbour are those between S.W. and N.W., which are generally are in squalls. North-easterly winds are also felt in bad weather, but they never cause a very heavy sea in the harbour.

Croc Harbour is the central point of the French station, and is easy to enter and get out of; wood and water are also readily procured. A frigate can tack into it, but great attention must be paid to veer about in good time, as under the land the wind is uncertain, and frequently takes aback at the moment of tacking about, particularly when the wind is from the N.W. and in squalls. Cape Vent is not easily recognised by strangers, particularly in making the land directly from the E.; it lies N.W. $\frac{1}{2}$ N. [*W. by N. $\frac{1}{2}$ N.*] 9 miles from the north point of Groais Island.

In leaving Croc Harbour to proceed to the north, after passing *Poir Grouts*, two black rocks are seen, called by the fishers the *Ravens*. The land thence to Irish Island, runs E. by N. $\frac{1}{2}$ N. nearly 3 miles; from thence to the N.E. to the S.W. point of *St. Julien Island*, which extends a mile to the east. *Irish or Black Island* is half a mile from that of *St. Julien*; it is a barren rock, beaten by the sea, and very abrupt.

St. Julien Harbour.—The harbour of Great St. Julien lies to the S.W. of the northern part of St. Julien Island; to enter it, pass to the N.E. of the island,

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and then steer so as to keep one-third or half a mile off, until the channel which separates it from the coast is seen; then keep on the port shore to clear a shoal which extends from the western shore over nearly a third of the breadth of the harbour. When at the rise of some very low land between two mountains, or nearer the end of the harbour than the establishments, you can anchor in 7 or 3½ fathoms, mooring fore and aft.

To enter *Little St. Julien Harbour*, proceed as if for Great St. Julien, to avoid a rocky shoal which projects from *Grandes Oies Island*, and terminates in a tolerably large bank; thence as soon as abreast the entrance of *Grandes Oies*, steer for Little St. Julien, and anchor then in 4½ or 3½ fathoms. Like the foregoing harbour, it is necessary to moor fore and aft.

The *Petites Ilettes*, 3 miles from *Grandes Oies*, form a harbour, which lies E. ½ S. from *Grandes Ilettes*; the entrance is exposed to the N.E., and can only receive vessels of a less draught of water than 11 feet. The entrance is narrow, and vessels must moor fore and aft.

Le Four Harbour.—This harbour, which is to the N. of that of *Petites Ilettes*, and W. by N. from *Fishot Harbour*, is very convenient for large vessels that cannot enter *Fishot Harbour*. For a vessel going to Le Four, when the entrance of the *Petites Ilettes* harbour bears W. ½ N., a look-out must be kept for *Repise Shoal*, which lies precisely true E. from the N. point of the entrance of Le Four, and to the N.N.E. of that of *Petites Ilettes*. Care must also be taken to avoid a shoal near the port hand point, a little to the S. on entering. The passage to the north of *Repise Shoal* is most used; the marks for keeping in the proper channel and avoiding all the dangers are "the islet in front of *Fishot* harbour open a sail's breadth of *Point Calan* from *Fromy Isle*." At the point northward of the northern point of the entrance of Le Four, there is a considerable reef of rocks; but it is very near the shore, and extends to about midway between the two points. The anchorage in Le Four harbour is to the left of the entrance, farther within than an islet which lies in the middle of the arm extending to the S.W., and which forms the road.

Fishot Isles are a group of islands, of which the largest is on the S. and is called *Fishot*, and forms the harbour of this name; the others are called *Fromy*, *Serpill'ere*, and the *North-East Island*; they leave between them a passage for ships, and two smaller ones for boats; but these are not practicable in all weathers, sometimes on account of the wind, and at other times by reason of the wind and sea. In *Fishot* harbour there are several rocks; one near the establishment of *Anse à l'Eau*, called the *Rusé*, is very dangerous; another is situated near the middle of the harbour, and at a certain state of the tide there is not sufficient water over it for a small boat. A vessel coming from the S. to enter *Fishot* harbour, must proceed as we have described for Le Four, until it comes to the shoal in mid-channel to the W. Thence, instead of bearing to the port hand, continue along shore until abreast of *Point Vide-Bidon*, and then steer E. by N. ½ N. to find the passage, leaving the small islet to port hand. Proceed toward the establishment on *Fromy Island* to avoid the *Rusé* rock, then toward Cape Croix, and lastly toward the islet in the harbour. To a vessel coming from the north, there is no danger, and it can range along the *Fishot Isles* at a third of a mile off. Vessels drawing more than 11 feet water should not make for *Fishot Harbour*, but rather for Le Four Harbour. There is no wood, for firing or otherwise, on *Fishot Islands*.

To the N. of the island on the N.E. of *Fishot Island* there are several rocks and islands. The nearest is called *The Verdons*, and the farthest the *Cormorandiers*. In mid-channel between them there is a rock which is rather dangerous. The *Cormorandiers* themselves are surrounded with shoals, and there is a bank at a quarter of a mile E. from the largest.

HARE BAY.—*Fishot Isles* on the south and *Goose Cape* on the north from the entrance of Hare Bay, which extend to the west for 17 or 18 miles, and is about 6 miles broad. This large bay contains several harbours, which are not frequented on account of their being so deeply seated in the bay. The whole of the south side of this bay is bordered with rocks, but these may be all avoided by keeping to the north of a line between *Cormorandier Island* and *Springs Island*, and also thence to *Brents*.

Islands. The route to the anchorage in Southern Arm is from Great Cormorandier toward Springs Island, where it is better to pass to the N. of it; thence toward the middle of Brents Island, or toward the North Island, till the western point of the Southern Arm is open; it lies to the west of a small island, and then bear up: the depth now will be 15 fathoms, and it is less than half a mile from Brents Islands. Continue towards the last-named point, and the entrance to the Arm will be seen; on entering it the course is to the S.W. by W., that is, in mid-channel, until arrived in the broadest part, where the anchorage is. Vessels can also anchor to the W. $\frac{1}{2}$ N. of the most southerly of the Brents Islands, in $4\frac{1}{2}$ and 5 fathoms.

The north side of the bay is quite clear and safe in its whole extent, and there is a much better harbour here called *How's Harbour*. Its entrance is precisely N. (true) of the eastern side of Brents Islands, and N.W. $\frac{1}{2}$ N. [$\frac{1}{2}$ by N.] $11\frac{1}{2}$ miles from Goose Cape. The hills around it are barren. This harbour is two miles deep by two-thirds of a mile broad; it is open to the S.W. and turns to the N.N.W. by which it is shut in like a basin. The depth of water is 10 fathoms. It is easy and safe of access, because on all the north side of Hare Bay from Goose Cape to Hare Island, which is 4 miles to the west of this harbour, there is not the smallest rock; and there does not exist a single shoal north of the line which joins Brents Islands, Springs Island, and the Great Cormorandier.

Goose Cape is one of the most remarkable points on the coast of Newfoundland; it is to be seen from a great distance, and projecting into the sea with gentle declivity, it has the appearance of a tongue of low land, which in certain positions seems like an island, and separated from the land. A little to the N. of Goose Cape and nearly over it, there are three very distinct mountains that are near the coast, and more in the interior, to the N. of Hare Bay, the *Capillaire Mountains*, which are very high. *Goose Harbour* is to the north, and under the cape, after doubling it; it is open to the W. by N. At its entrance is an islet, on which iron rings are fixed, on which tow ropes may be affixed, by which vessels can haul into the harbour with contrary winds.

The harbour of *Three Mountains* is to the W. of Point Enragée of Goose Cape, and at the back of Notre Dame Island; the entrance is on either side of this island. If the south passage is used, keep closer to the island than to the southern side, because there is a rock to the E. of Cape Enragée at two cables' length from it. If the northern passage is used, it is also necessary to keep close to the island.

Crémaillere Harbour is one of the finest on the coast of Newfoundland, and is an excellent port for men-of-war to put into. It has excellent water and abundance of fire-wood. Its entrance is about half a mile broad, formed, on the south, by Cape *Haut-et-Bas*; and on the north by a low, rocky, sea-worn point, called *Anchor Point*. In coming from the south to Crémaillere Harbour, there is a shoal to the north of Notre Dame Island, which care must be taken to avoid. The bottom is good, and is better in front of the establishment called *Banc à l'Ours* than in any other part. Between Crémaillere and Fox Cape the coast is quite clear and safe. At the distance of $4\frac{1}{2}$ miles E. by N. $\frac{1}{2}$ N. from Point Enragée is Cape St. Anthony; and in the same direction, $1\frac{1}{2}$ mile farther, is French Point, which is often mistaken for the Cape, although it is to the east of it.

St. Anthony.—Cape St. Anthony, with Fox Point, form the opening of *St. Mein Bay*, in which, on the left-hand side behind Fox Point, is the entrance of St. Anthony Harbour. St. Mein Bay is open to winds between S. and E.; Fox Point is very safe, and may be approached as well as either side of the harbour. Vessels may anchor in any part, from the Horse's Back to the end of the harbour; and also in Margaret Bay, which lies on the right-hand side of the harbour.

Brehats or Braha.—In proceeding N.E. by N. for three miles from French Point, we arrive at the south point of Bréhats Bay. This bay is nearly a mile broad, and is bounded on the north by a point of rocky islets, called the *Epées de Bréhat*. To the eastward of the south part of this point, and a mile and a half off, is Bréhat Shoal, on which there is but 12 feet water; although it is of small extent, the sea, in bad weather, breaks over it with great fury. It is the most dangerous shoal on the coast.

Between it and Bréhat Bay there is a very good passage. There are fishing establishments, both in Great and Little Bréhat, but ships anchor in Great Bréhat; the entrance of it is narrow and difficult, and with strong winds at sea, the sea breaks in such a way that it is difficult to find out the harbour.

St. Lunaire Bay.—From the Epées de Bréhat to St. Lunaire Bay, the coast runs to the N.N.E. $\frac{1}{2}$ E.; at the south part of the entrance of the bay there are two islands, called *Granchain Islands*, the passage for ships and other vessels is to the north of these islands, and is about one-third of a mile broad. When between the two points of the entrance, there will be seen ahead *Haut-et-Plate Island*, *Salut Island*, and the *Plate Islands*, connected by a chain of rocks; on account of this, it is necessary to keep to the north of them all. On the north side of the bay is *Amelia Harbour*, in which, within *Rouge Island*, there is an anchorage. It is a safe and commodious roadstead, and wood and water can be obtained. Between *Haute-Terre Island* and the two islands at the entrance of St. Lunaire there is a large space, in which is found 14, 18, or 20 fathoms, and vessels are here secure from winds that come from between the south and east. In going into this, there is a rock which must be avoided, and over which there is but 10 feet water; it is to the W.N.W. of the low point of *Haute-et-Plate Island*, at 500 yards distance, and 550 yards from the east point of *Haute-Terre Island*, which forms the southern limit of the entrance to the N.W. bay. St. Lunaire Bay offers very good anchorage to men-of-war.

"St. Lunaire Bay is an excellent harbour, and will contain 100 vessels in perfect safety; it is remarkably easy of access, and may always be recognised by *White Cape*. The best and most convenient anchorage is found at *Amelia Cove*, on the N. side, in from 5 to 7 fathoms. In entering, give the points of the southern islands a good berth."—LIEUT. BULLOCK.

White Cape and Griguet Harbours.—From St. Lunaire Bay the coast runs N.E. $\frac{1}{2}$ N. rather more than a mile, to *White Cape*; it is high, and has a remarkable whitish appearance, and, with the most southern of the *Griguet Islands*, forms the entrance of *White Cape Harbour*. The entrance is narrow, and to enter the anchorage keep close to the Cape, and then shut it in with the south point of the island; the depth is $3\frac{1}{2}$ to 4 fathoms. The *Griguet Islands* are four in number, including *Camel Island*, forming between them several channels and small harbours, where fishing vessels can lie in security. The North Bay is insecure in spring and fall, being exposed to southerly gales; the S.W. bay is therefore recommended.

Storm Cape, which is to the north of the North Bay of the *Griguet*, lies N.N.E. and S.S.W. with *Cape Partridge*, at the entrance of *Kirpon*, or *Quirpon*, distant two miles. A little to the south of *Storm Cape* there is an islet, near to *Cape Partridge*, also to the south of it, there is a second, larger than the former, but equally clear. Between these two islets the coast forms several small coves; there is also, near the land, and nearer *Cape Partridge* than *Storm Cape*, a shoal called the *Madeleine*, on which the sea breaks in bad weather. The *White Islands*, to the E. $\frac{1}{2}$ N. of *Storm Cape*, are clear: the outer island has some rocks on the S. and S.E., but they are close to it. To the W. by S. of the largest, half a mile off, there are several rocks on a shelf which breaks and extends a mile from N.W. to S.E. There is a passage between this reef and the *White Islands*, but it ought not to be tried, except under necessity. To the west of the breakers the passage is above a mile in width, and the depth is 40 fathoms. The *White Islands* are small and low, in lat. $51^{\circ} 35' N.$ and long. $55^{\circ} 15' 28' W.$

QUIRPON ISLAND, off the N.E. point of Newfoundland, forms the S.E. point of entrance to the Strait of *Belle Isle*. It is high and barren.

LITTLE QUIRPON, in the southern channel is, thus called, because it is only separated from *Great Quirpon Harbour* by a very narrow channel, in the middle of which there is a rock; the tide runs sometimes very strong in this channel. To enter it, keep the middle of the channel, to keep clear of the *Whale shoal* on the right hand, on which there is but little water, as soon as this is passed, keep on the starboard side. *Degrat*, or *Row-Galley Head*, is the easternmost hill on *Quirpon Island*; its extremity forms the entrance of *Degrat Harbour*, before which are some islets and rocks, which shelter the vessels anchoring here. It is only proper for small vessels.

Pigeon Cove is rather more to the north than *Degrat Harbour*, but it is unfit for the anchorage of vessels.

Cape Bauld, which is the north extremity of *Quirpon Island*, is in latitude $51^{\circ} 38' 15''$, and longitude $55^{\circ} 26' 53''$ W.; it is steep and rocky, and may be approached with safety. After passing the Cape, a point will be seen in the W.S.W. showing *Quirpon Harbour*: along all the coast, and close to it, the depth is not less than 15 fathoms.

Quirpon Harbour.—The entrance of this harbour is formed by *Quirpon Island* and *Jacques Cartier Island*; it is the most northern harbour of Newfoundland: to arrive at this harbour, keep the Black Head of *Quirpon Island* clear of all the land until *Point Raven* is hidden by *Point Noddy*; then proceed towards the entrance of the harbour in the direction of the islets, taking care to keep at least half a cable's length from *Jacques Cartier Point*; as soon as this is passed, proceed to the anchorage between this island and *Green Island*; this is *Jacques Cartier Road*, and has good holding ground, with a depth of 7 fathoms. The passage within either side of *Green Island* is good for small vessels; the depth is three fathoms, but beyond the island it is perfectly secure in 6 fathoms. Wood is scarce in *Quirpon*, but can be readily procured in *Ha-Ha* or *Pistolet Bays*.

Noddy Harbour is situated a little to the west of that of *Quirpon*, and between *Point Noddy* and *Cape Raven*: there is no danger in entering; and a vessel ought to keep to the port of the island, which is nearly a mile beyond the entrance, and anchor behind it in $4\frac{1}{2}$ fathoms. The *Gull Rock* lies W. by N. $\frac{1}{2}$ N. from *Cape Bauld*, and N. by E. rather more than 2 miles from *Cape Raven*: this rock is always uncovered. *Maria Ledge* is N.E. by N. [$N. \frac{1}{2} W.$] five-sixths of a mile from *Cape Raven*, and E. by N. $\frac{1}{2}$ N. [$N.E. \frac{1}{2} E.$] two-thirds of a mile from the starboard point of *Maria Bay*. It is nearly $1\frac{1}{2}$ mile N.E. [$N. by E. \frac{1}{2} E.$] from the *Gull Rock*. This reef extends 1200 yards nearly from E. to W., and 600 yards from N. to S.; between it and *Gull Rock* there is from 21 to 27 fathoms. In coming from the north, whether from *Quirpon* or *Noddy Harbour*, these two dangers need not be feared, as they are always visible; the passage between them is half a league broad; although safe, it is nevertheless, prudent to pass near the *Gull Rock* on account of the *North-West Ledge*, which does not show but in bad weather; it is situated West [$S.W. by W. \frac{1}{2} W.$] $1\frac{1}{2}$ mile from *Gull Rock*, and is about 600 yards long and 400 broad. A ship is outside its eastern extremity when the North points of the two *Sacred Islands* are in one. But all dangers will be avoided by keeping the South point of the large, in one with the North point of the smaller island. Between *Gull Island* and the *North-West Ledge* there is 14 and 18 fathoms. The passage between the continent and the *North-West Ledge*, ought not to be tried when it can be avoided.

Sacred Islands.—Farther to the West are the *Sacred Islands*: the North point of the largest lies N.W. $\frac{1}{2}$ W. [$West$] 5 miles from *Cape Bauld*, and S.E. by E. [$E. \frac{1}{2} N.$] 12 miles from *Cape Norman*. *Little Sacred Island* is nearly one mile S.E. by S. [$E. by S. \frac{1}{2} S.$] from *Great Sacred Island*: the passage between them is very good, and has a depth of 15 to 19 fathoms. These islands are clear, high, and steep. Within them to the S.W. by W. is *Sacred Bay*, tolerably large, and containing a large number of islets and rocks. The coasts are covered with wood, and it is frequented by the fishers. *Cape Onion* forms the north point of *Sacred Bay*, and is high and steep; near it is a remarkable rock, the *Mewstone*, called so from its resemblance to that rock at the entrance of *Plymouth*. To the south of the *Mewstone* is a small cove where a vessel can, on occasion, find refuge. From *Cape Onion* to *Burnt Cape*, the direction is W. by S. $\frac{1}{2}$ S. [$W.S.W.$] rather above $4\frac{1}{2}$ miles; *Burnt Cape* appears of a whitish colour. On the eastern side of the cape is *Ha-Ha Bay*, which extends 2 miles toward the South; it is exposed to northerly winds, and can be anchored in when within the cape in 5 or 6 fathoms. This bay, like *Sacred Bay*, is furnished with wood.

Bay of Pistolet is situated between *Burnt Cape* and the reefs of *Cape Norman*; it is $1\frac{1}{2}$ miles deep by as much in breadth. The depth is generally from $4\frac{1}{2}$ to 3 fathoms in the part south of a line W.S.W. and E.S.E. of the *Wood Islands*,

and from 13 to 8 at its entrance. The best anchorage is at the western part, a little within the islands, in 4½ fathoms. North-west winds beat full into it. Cape Norman and Burnt Cape bear from each other S.E. by S. and N.W. by N. [S.E. by E. ½ E. and [N.W. by W. ½ W.] 4 miles apart. At the entrance of the bay, to the E.N.E. from a point called North Point, there is a reef which is not more than a mile from it; it lies also to the North of Goelette or Schooner Island, forming the western side of the entrance. To avoid this danger, keep Cape Norman to the south of W.N.W. till the eastern extremity of Goelette Island bears a little to the S.W. by S.

CAPE NORMAN.—This cape is, next to Quirpon Island, the most northern part of Newfoundland; it is level land, moderately high, and of a barren appearance. Its lat. is 51° 38' 5", long. 55° 53' 28". The coast of Newfoundland from this cape trends to the West [S.W. by W. ½ W.].

BELLE ISLE LIGHTHOUSE, on the S.W. point of the island, showing a fixed light of the first class, at an elevation of 470 feet, is described hereafter. It is the key to the eastern entrance to the Strait of Belle Isle, the course through being about due West by compass. The Lighthouse is N.E. ½ N. 14 miles from Cape Bauld.

THE SOUTHERN COASTS OF NEWFOUNDLAND.

I.—THE S.E. COAST FROM ST. JOHN'S HARBOUR TO CAPE RACE.

HAVING already described, on pages 16 and 17, the environs of St. John's Harbour, we now resume the coast to the southward, commencing with Cape Spear.

Cape Spear Light, before alluded to, revolves at an elevation of 275 feet, showing a bright flash every minute.

From Cape Spear to to the north of *Petty Harbour Bay*, the course and distance are S.W. 2½ miles; and thence to the south point, S.W. by S. 2½ miles. From the South point of Petty Harbour Bay to the *Bay of Bulls*, the course is S.W., and the distance eight miles. About midway between, is *Shoal Bay*, the coasts here being composed of lofty precipices of hard red sandstone. In this bay is a place called the *Spout*, which is very remarkable in rough weather; it is a cavern into which the sea runs; and, having a vent on the top of the land, it spouts up the water to a great height, so that it may be seen a great way off.

Bay of Bulls.—Between the heads the bay runs in N.W. by W. for two miles, and then N.W. by N. to the river-heads. In this bay is good riding, in from 20 fathoms, at the first entrance between the heads, to 18, 16, &c., after you are within Bread and Cheese Point, which is about half-way up the bay, on the North side, where there is a cove. Off this point, nearly half a cable's length, lies a sunken rock, which must be avoided; every other part of the bay is bold-to and free from danger. Being past the point, run up and anchor (or turn up) against *John Clay's Hill*, bringing it to bear N.E. by N., and anchor in 12 or 14 fathoms of water; merchantmen run farther in, and anchor in from 10 to 7 fathoms, and lie not above a point open.

Whittle Bay lies about 1½ mile to the southward of the Bay of Bulls; it is in some degree sheltered by Green Island and Gull Island, which lie before it, but is not safe for ships.

CAPE BROYLE.—From the Bay of Bulls to Cape Broyle is about 14 miles. Cape Broyle Harbour lies in about N.W. by W. ½ W. about two miles; but it is exposed to the sea winds. Cape Broyle is the most remarkable land on all the South coast of Newfoundland; it is a fine bold headland, 400 or 500 feet high; coming either from the southward or northward, it appears like a saddle. The coast to the southward gradually diminishes in height, from Cape Broyle to Cape Ballard. S.E. by E. from the northern point of Cape Broyle, about half or three-quarters of a mile,

lies a sunken rock, called *Old Harry*, on which is but 18 feet of water: the sea breaks upon it in bad weather; but, between it and the shore, there is 12 or 13 fathoms of water. In very bad weather, the sea breaks home almost to the shore from *Old Harry*, by reason of the current, which generally sets strong to the southward.

From *Cape Broyle Head* to *Ferryland Point*, the bearing and distance are S.S.W. about $2\frac{1}{2}$ miles; between are three islands, which lie before *Capelin Bay*, and ships may sail between them to that place.

CAPELIN BAY is large and good, and runs in a considerable way within the islands above mentioned, where a number of ships may ride in good ground, in from 10 to 20 fathoms of water.

From the north part of *Ferryland Head* to *Ferryland*, the bearing and distance are W.N.W. more than a mile. It is a picturesque and pleasant place, and has several large and good houses. To go into *Ferryland Harbour*, you must sail between the north part of *Ferryland Head* and *Isle au Bois*; it is not wide, but there is water enough, and clean ground: when within the *Isle au Bois*, you may run in and anchor where you please, it being of a good breadth. Spring-tides rise from 3 to 4 feet.

Aquafort.—From the south point of *Ferryland Head* to *Aquafort*, the course and distance are W. by N., about 3 miles. *Crow Island* lies about a mile E. by N. from the mouth of *Aquafort*; and from the S.E. end of *Crow Island* lies a shoal, about a cable's length. *Aquafort Harbour* lies in W.N.W. It is a long inlet, the cliffs rising to a height of 200 feet. On the north side there is a cascade over the cliffs, which gives the name to this place. There is a great rock above water on the south side of the entrance, which is bold-to; you run up about 2 miles within the harbour's mouth, and anchor on the north side, quite land-locked.

Fermowes is a very good harbour, and bold going in; no danger but the shore itself; it lies in N.W. by N. and N.W. Being past the entrance, there are several coves on each side, in the harbour, where ships may ride. There are 20 fathoms of water in the entrance of the harbour, and within from 14 to 4 fathoms.

FROM FERMOWES TO RENOWES, the bearing and distance are S.W. by S., about $1\frac{1}{2}$ league. Off the south point of *Renowes Harbour*, at a small distance from the shore, is an island; and, S.T. from the same point, about half a league, high above water is *Renowes Rock*, which may be seen 3 leagues off. *Renowes* is but a bad harbour, being full of rocks, with shallow water. From *Renowes* to *Cape Ballard*, the course and distance are S.S.W. $\frac{1}{2}$ W. $2\frac{1}{2}$ leagues. From *Cape Ballard* to *Cape Race*, the bearing and distance are S.W. by W. $2\frac{1}{2}$ leagues; between which, and near *Cape Ballard*, is *Chain Cove*, with several rocks lying before it, but no harbour, and about half-way is *Clam Cove*, which is fit for boats only.

CAPE RACE LIGHTHOUSE is 40 feet high, and is striped red and white vertically. The light is a brilliant fixed light at 180 feet, visible 17 miles off. It is visible to seaward from N.E. by E. round southward to west. It stands close to the site of the old beacon, which has been cut down.

The land about *Cape Race* is comparatively low, and bare of wood, with a steep cliff of about 60 feet in height.

II.—THE COAST OF AVALON, FROM CAPE RACE TO PLACENTIA BAY, INCLUDING TREPASSEY, ST. MARY'S BAY, AND PLACENTIA HARBOUR.

FROM *Cape Race* the land trends away to the westward, and W. by S. one mile and a half: then W. $\frac{1}{2}$ N. one league, to *Mistaken Point*; and from *Mistaken Point* to *French Mistaken Point*, about N.W. by W. 2 miles. From *French Mistaken Point* to the *Powles*, the E. point of *Trepassey*, it is N.W. 8 miles. From *Mistaken Point* to *Cape Pine*, the course and distance are W.N.W. $4\frac{1}{2}$ leagues.

Trepassey Harbour.—The entrance to Trepassey Harbour lies nearly 5 miles N.E. from Cape Pine; it is about three-quarters of a mile wide, and runs nearly of the same breadth for $2\frac{1}{2}$ miles, where it narrows to one-quarter of a mile, but again increases to three-quarters of a mile, where the ships ride. The dangers of sailing into this harbour are, a small rock on the east shore, about a mile within the *Poule Head*, and about one-third of a cable's length from the shore; and, on the west shore in the harbour, off a stony beach, a *shoal*, which runs along shore up the harbour to a low green point. *Baker's Point* on with a low rocky point on the entrance of the harbour, will carry you clear of this shoal. When you are nearly up with the low green point, you may steer more to the westward, and anchor either in the N.W. or N.E. arm, in 5 or 6 fathoms.

CAPE PINE LIGHTHOUSE.—This is an iron circular tower 50 feet high, painted in red and white bands, showing a revolving light every half minute. The light is shown from 12 lamps and reflectors of peculiar form, the design of Mr. Alex. Gordon. It is elevated 314 feet, visible in favourable weather 30 miles off. First shown January 1st, 1851. It is a very important station, and with the light on Cape Race must have averted many wrecks.

From Cape Pine to *Cape Freels*, the course and distance are west $1\frac{1}{2}$ mile. The land about Cape Pine is moderately high, and barren. From Cape Freels the land trends about W.N.W. one mile, to blackhead, then N. W. $\frac{1}{2}$ W. one mile, to the eastern reef and head of *St. Shot's Bay*.

A rock has been reported to exist at 2 miles off the eastern head of *St. Shot's*.

From the eastern head of *St. SHOT's* to the western head, the bearing is N. by W. $\frac{1}{2}$ W., distance 2 miles: *St. Shot's Bay* is about a mile deep, and entirely open to the sea.

NOTE.—“On the rocks extending from the eastern side of the bay, the *Comus*, *Harpooner*, and other vessels were wrecked, as already shown on pages 5 and 6.”

ST. MARY'S BAY.—From the eastern head of *St. Shot's* to *Point Lance*, the bearing and distance are N.W. $\frac{1}{2}$ N. 20 miles. These points form the entrance of *St. Mary's Bay*, which runs up 9 leagues to the E.N.E. with several good harbours in it, the land on each side being moderately high. The current frequently sets with great force on the eastern shore of the bay, which is the cause of many accidents here.

The land from *Point Lance* lies E. by N. $2\frac{1}{2}$ leagues to a *high bluff cape*, from which the land along the west side of the bay trends E.N.E. 7 leagues, up to the head of the bay. From the afore-mentioned bluff cape to *Cape English* on the east shore, the bearing and distance are S.E. $\frac{1}{2}$ S. 10 miles.

Cape English is high table land, terminating in a low rocky point, forming a bay about a mile deep, to the southward of it; at the bottom of which is a low stony beach, within which is *Holyrood Pond*, extending to the E.N.E. about 8 leagues: being situated within the cape, it makes *Cape English* appear like an island.

From *Cape English* to *Point la Haye*, the bearing and distance are N.E. by E. $2\frac{1}{2}$ leagues. This is a low point, from which a ledge of rocks extends a quarter of a mile into the sea, and above a mile along the shore, on which the sea breaks in bad weather. It is the only danger in all *St. Mary's Bay* that will take a ship up.

St. Mary's Harbour.—The entrance of this harbour is above a mile wide, and bears from *Point Lance* E. $\frac{1}{2}$ S. 20 miles. Within the points that form the entrance, it divides into two branches, one to the S.E., the other to the E.N.E. When you are within *Ellis Point*, haul in to the southward, and anchor abreast of the houses and stages, upon a flat, in 4 or 5 fathoms, where you will lie land-locked. This flat runs off about half a mile from the above; and without it is from 15 to 40 fathoms of water over to the other side; but the best anchorage is about two miles above the town, where it is above half a mile wide, opposite *Brown's Pond*, which may be seen over the low beach on the starboard side; here you will lie land-locked in 12 fathoms

of water, and excellent ground all the way up to the head of the bay. The E.N.E. arm lies open to the sea, and is not resorted to by ships.

Holyrood Pond, which once was an arm of the sea, is now separated from it by a bank of pebbles, 2 miles long, having at times a narrow channel; but during the autumn, the currents which sweep up the bay along this shore, completely close up the entrance, which is opened by the inhabitants in June: a fishery is thus kept in all the year round.

MAL BAY lies to the westward of the north-east point of St. Mary's Harbour: it is about a mile wide, and about two miles deep: but there is no good anchorage, a heavy swell generally setting into it; hence the name.

COLINET BAY lies opposite Mal Bay, and N.E. by E. $5\frac{1}{2}$ miles from the north point of *Little Colinet Island*; in it is very good anchorage, in from 5 to 12 fathoms of water.

CAPE ST. MARY.—From POINT LANCE to CAPE ST. MARY, the bearing and distance are N.W. $7\frac{1}{2}$ miles: Cape St. Mary is a pretty high *bluff cape*, and the land along shore from it, for a considerable distance, appears even, and nearly of equal height with the cape itself.

The *Lighthouse* is a brick tower, 40 feet high, which shows a beautiful revolving light at intervals of a minute, the flashes being red and white alternately. The lens apparatus of the light is a new adaptation by Mr. Stevenson, called the *holophotal system*, of the first order. It is elevated 390 feet, and may be seen at 25 miles off. Completed in 1860.

From *Point Lance* W.N.W. 3 miles, lie the *Bull and Cow Rocks*; they are two flat rocks, and very near together, with several small rocks around them, all above water, and may be seen four leagues off, when open from the land. They bear S.E. by S. from Cape St. Mary, $5\frac{1}{2}$ miles, and one mile from the nearest part of the main land: at about two-thirds of the distance from them to the main, is a small rock, which appears above water at half-tide.

St. Mary's Kays or Rocks lie W. by S. from Point Lance, W.S.W. $\frac{1}{2}$ W. from the Bull and Cow, and S.W. by S. $7\frac{1}{2}$ miles from Cape St. Mary. These are two rocks that appear just above water, and the sea always breaks very high upon them. There are 15 fathoms at a small cable's length all around them, excepting to the S.S.E., where there are but 6 fathoms at two cables' length.

PLACENTIA BAY.—From Cape St. Mary to *Cape Chapeau Rouge*, the bearing and distance are N.W. by W. $\frac{1}{2}$ W. $16\frac{1}{2}$ leagues. These capes form the entrance of Placentia Bay. Cape Chapeau Rouge is the highest and most remarkable land on that part of the coast, appearing above the rest like the crown of a hat, and may be seen in clear weather 12 leagues off.

From Cape St. Mary to *Point Breme*, the course is N. by E. $\frac{1}{2}$ E., distance 6 miles; and from Point Breme to the Virgin Rocks, N.E. $\frac{1}{2}$ E. 12 miles. These rocks lie about two miles from the main, and show above water.

PLACENTIA HARBOUR.—*Point Verde*, $5\frac{1}{2}$ miles N.E. of the Virgin Rocks, is low and level, and forms the south side of the entrance of Placentia Road and Harbour, which is situated on the east side of the great Bay of Placentia.

GREAT PLACENTIA was once a very considerable place, being the French capital, when they held possessions on the island, and even under the English was formerly much more important than it is now. If you are coming from the southward, and going into the road, you should keep a league from the shore to avoid the Gibraltar Rock, which lies W. by N. from Point Verde, till you bring the Castle Hill open to the northward of that Point. The Castle Hill is on the north side of the road on which stand the ruins of a fort, called the castle, and is distinguishable far out at sea. Gibraltar Rock has only 8 feet of water over it, at low water, spring tides, and lies $2\frac{1}{2}$ miles from Point Verde. When you have the Castle Hill on with the Point, it will lead you a quarter of a mile to the northward of it; run in with the mark on, keeping your lead going, as there are regular soundings on both sides, and giving the Point a berth of near two cables' length, passing it in 4 fathoms of water, you may

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proceed to the anchorage under the Castle Hill, at three-quarters of the distance over from that side, where you lie in 6 or 7 fathoms of water, good ground. At the bottom of the road is a long beach, which terminates to the north in a point, on which stand the houses and a fort; between which and the Castle Hill is the entrance into Placentia Harbour; this entrance is very narrow, with $3\frac{1}{2}$ fathoms of water; but within the narrows it widens to one-third of a mile, with 6 or 7 fathoms of water, where ships may lie in perfect security. In going in, keep nearest to the starboard side. The inner harbour divides into two arms; one called the North-East Arm, about 9 miles long, and nearly straight, with bold cliffs and hills rising to the height of 400 or 500 feet; and the other the South-East Arm, with a very winding course of about 5 miles. The South-East Arm nearly surrounds a steep rocky piece of ground which was once an island, but is now connected by a long pebble beach, with the main land on the south side of the harbour, blocking up what many years ago was the entrance of the South-East Arm.

III.—THE NORTHERN PORTION OF THE BAY OF PLACENTIA, AND COAST THENCE TO CAPE CHAPEAU ROUGE.

Point Latina lies about 5 miles to the northward of Placentia Road; between which are several sunken rocks lying along the shore, about half a mile off. A large mile to the eastward of Point Latina lies *Point Roche*, off which a shoal stretches nearly one-third of a mile.

From Point Roche $1\frac{1}{4}$ mile S. by E. $\frac{1}{2}$ E., is the entrance of *LITTLE PLACENTIA HARBOUR*, which extends W. by S. above $1\frac{1}{2}$ mile, and is near half a mile broad. *Little Placentia*, as well as Great Placentia, stands on what was once an island, being connected to the main by a beach of large pebbles. It is a straggling place, on the low side of an inlet, with bold rocky hills on the opposite side. Here is good anchorage in a cove on the north shore, which may be known by the west point being woody: off the east point of the cove lies a shoal nearly one-third of the distance across; in the cove are 7 or 8 fathoms of water.

From Point Latina to *SHIP HARBOUR* the course is E. $5\frac{1}{2}$ miles: this harbour extends N.N.E. $2\frac{1}{2}$ miles, and is a quarter of a mile wide. The anchorage is in a cove on the west side, in 10 fathoms, about a mile from the entrance.

N.N.E. 5 miles north from Point Latina is a steep rock above water, called *Fishing Rock*; and N.N.E. $1\frac{1}{2}$ mile from Fishing Rock lies a sunken rock, which almost always breaks.

RED ISLAND is high barren land, about 4 miles long, and $2\frac{1}{2}$ miles broad, composed of red granite. The S.E. point bears N.N.W. 11 miles from Placentia Road; and nearly east 12 leagues from Mortier Head, which is on the west side of the bay.

The *RAM ISLANDS* are a cluster of high islands lying N.E. $\frac{1}{2}$ E. of Fox Island about $2\frac{1}{2}$ miles. East 3 miles from the south point of Ram Islands is the entrance into *Long Harbour*; there is no danger in going in; the best anchorage is on the north side, to the eastward of Harbour Island, between it and the main, where you will you will lie secure from all winds, in 7 or 8 fathoms of water.

LONG ISLAND.—From Point Latina to the south point of Long Island, the course is N. $\frac{1}{2}$ E. 4 leagues; this island is 8 miles long, high land, the south point being remarkably steep rocks. On the east side of it, about a league from the south point, lies *Harbour Buffet*, which is tolerably good; the entrance to it is narrow, but has 13 fathoms of water in it. To sail into it you must pass to the northward of all the islands. About 4 miles from the south point of Long Island, on the west side, lies *Mussel Harbour*, the entrance to which is between Long Island and Barren Island, and opposite the north end of the latter; the depth is from 10 to 22 fathoms, rocky bottom.

South Harbours.—Little South Harbour lies one mile to the westward of Little
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Harbour; and it has several rocky islands before its mouth, which, in going in, must be left on your starboard side, excepting one, on either side of which is a safe passage of 15 fathoms of water. On the east shore, within the islands, is a sunken rock, about a cable's length from the shore, which generally breaks. Nearly opposite on the west shore, are some rocks, about half a cable's length from the shore, that show at one-third ebb. This harbour is about $1\frac{1}{4}$ mile long, near half a mile wide, with 7 fathoms, good bottom.

Great South Harbour is about a mile to the northward of *Little South Harbour*: there is no danger in sailing into it, and near the head is very good anchorage in 6 or 7 fathoms of water.

Come-by-Chance.—The entrance into *Come-by-Chance Harbour* lies N.N.E. 4 miles from the *Ile au Bordeaux*; it extends N.E. by E. 3 miles, and has from 20 to 3 fathoms of water, sandy bottom, but is quite exposed. The head of the harbour is about 3 miles from the Bay of Bulls in *Trinity Bay*, the isthmus here connecting the peninsula of *Avalon* to the main portion of *Newfoundland*, and was crossed by the *Atlantic Telegraph wire*.

NORTH HARBOUR is N.N.W. 2 miles from *Come-by-Chance*, and S.E. by S. $2\frac{1}{2}$ miles from *Piper's Hole*; about two miles from the entrance is good anchorage in 7 fathoms of water, and no danger in sailing in.

SANDY HARBOURS.—Nearly 4 miles W. $\frac{1}{2}$ S. from the south end of *Barren Island* is *Great Sandy Harbour*, the entrance to which is narrow, but within there are 6 or 7 fathoms of water.

Little Sandy Harbour lies a quarter of a mile to the southward of *Great Sandy Harbour*, and is tolerably good, having 6 or 7 fathoms of water, good bottom. In going in, you pass to the northward of a low rock above water, which lies in the mouth of it. This harbour may be known by *Bell Isle*, which lies S.E. $\frac{1}{2}$ E. $1\frac{1}{2}$ mile from the mouth of it; and N.E. $\frac{1}{2}$ N. 13 miles from the west point of *Merasheen Island*: off the south point of the island, is a remarkable rock, resembling a bell with the bottom upward.

Nearly 3 leagues S.W. from *Bell Isle*, is the north end of *Great Valen Island*, which is about 2 miles in length. On the main, to the westward of it, is *Clatise Harbour*, the entrance into which is half a mile wide; in it are 40 or 50 fathoms of water. The best anchorage is in the west cove, which is one mile long, but not a quarter of a mile wide, in from 17 to 20 fathoms of water, good bottom.

Grandmère's Rocks are just above water, and $1\frac{1}{2}$ mile north-eastward from the north end of *Great Valen Island*.

Merasheen Island.—E.S.E. 4 miles from *Presque*, lies the west point of *MERASHEEN ISLAND*; this island is high, and trends to the N.E. by E. more than 6 leagues; it is very narrow, the broadest part not being more than two miles. At the south part of this island, near to its west end, is a very good harbour, but small, with from 6 to 10 fathoms water. To go into it, keep the starboard shore on board, in order to avoid a sunken rock, that lies a cable's length off a rugged rocky point on the port side when going in. *Indian Harbour* lies on the east side of *Merasheen Island*, at about 3 leagues from the south point.

S.W. $\frac{1}{2}$ W. two miles from *Presque* is a sunken rock: a quarter of a mile without this rock is a rock above water, called the *Black Rock*, which lies East two miles from *Maricot Island*.

The harbour of *LITTLE PARADISE* lies one mile to the northward of the east point of *Maricot Island*; the only safe anchorage is in a cove, at the head, on the port side. The harbour of *GREAT PARADISE* lies to the westward of *Little Paradise*, and is fit for boats only.

From *Maricot Island* to *Corbin Head*, the course is W.S.W. $\frac{1}{2}$ W. $11\frac{1}{2}$ leagues: this course will lead just with without the rock called the *Saddle Back*, which is $9\frac{1}{2}$ miles from *Maricot Island*. Between *Maricot* and the main is an islet called *Fox Island*: between these islands is a safe passage, with not less than 9 fathoms of water; but none between *Fox Island* and the main.

Paradise Sound.—To the westward of Fox Island is the entrance of Paradise Sound, which extends N.E. by E. $4\frac{1}{2}$ leagues, and is about a mile broad, with very deep water, and no safe anchorage till you get near the head of it.

One mile to the westward of Paradise Sound lies *Petit Fort Harbour*: a very good harbour, having in it from 14 to 7 fathoms of water, good bottom. There is no danger in going in; and the best anchorage is on the starboard or eastern side. S.E. winds heave in a great swell on the western shore when it blows hard.

CAPE ROGER HARBOUR lies close to the westward of Cape Roger, which is a high round barren head, lying N. $\frac{1}{2}$ E. $3\frac{1}{2}$ miles from the south point of Long Island. There are several low rocks and islands lying off the eastern point of the entrance. In the harbour, at a quarter of a mile within, on the western side, lies a small island; to the northward of which, between it and the main, is very good anchorage in 7 or 8 fathoms of water, or farther up in 6 or 7 fathoms.

N.N.W. 2 miles from the south point of Long Island, lies a small *Green Island*, which has a shoal all round to nearly a cable's length. From *Green Island* N.N.W. $2\frac{1}{2}$ miles, lies *Great Gallows Harbour Island*, which is a high land. Vessels may pass on either side of this island into *Great Gallows Harbour*, which lies one mile to the E.N.E. of the island. In this harbour is exceedingly good anchorage, in 7 fathoms of water, on the starboard side, just within a low stony point, taking care to give the point a small berth, in order to avoid a rock which is alternately covered and uncovered with the tide.

AUDIERNE ISLAND lies half a mile to the northward of *Cape Judas* or *Middle Island*, on the west side of which there is a tolerably good harbour. At about a cable's length from Audierne Island, to the southward of the harbour, is a sunken rock; the mark for avoiding which, in coming in from the southward, is not to haul in for the harbour till you open a remarkable green point on the southern side of the harbour. The best anchorage is on the north shore, just within a small island. A spit of rocks stretches just off the *Green Point* on the south shore, which are covered at high water. Vessels bound for Audierne Harbour may pass between *Cape Judas* or *Middle Island* and Audierne Island; and between *Crow* and *Patrick's Island*, which are two small islands lying off the S.W. point of Audierne Island. Off the N.E. point of Audierne is *Ford's Island*, on the west of which is a sunken rock, about a cable's length from the island, and another on the eastern side, which almost always breaks.

The *Saddle Back* is an islet lying E.N.E. $\frac{1}{2}$ E. 8 leagues from *Corbin Head*; E. by N. from *Mortier West Point*, and E.S.E. $\frac{1}{2}$ E. 3 leagues from *John-the-Bay Point*. Between it and the main are a great number of rocks and islets, which render this part of the coast very dangerous. A chain of rocks extend N.E. by E. one mile and a half from the *Saddle Back*.

CAPE JUDAS OR MIDDLE ISLAND is about $2\frac{1}{2}$ miles in length, and 2 in breadth, and lies $1\frac{1}{2}$ mile north of the *Saddle Back*; on the south end of it is a round hill, which is called the *Cape*. Between this island and the main are a cluster of islands and low rocks, with a great number of sunken rocks about them, called the *Flat Islands*, the innermost of which lies about one mile from the main.

Two miles to the N.N.W. of *John-the-Bay Point* lies *John-the-Bay*, in which there is tolerably good anchorage, with about 8 fathoms of water, sandy bottom.

Mortier Bay.—Four miles W.S.W. from *Rock Harbour* is the entrance into *Mortier Bay*: at the entrance of which, on the west side, is a small Harbour, called *Beaubois*, of only 9 feet of water. On the eastern side, at about three miles from the entrance, is an exceedingly good harbour, called *Spanish Room*, in which vessels may anchor in from 4 to 6 fathoms of water, good ground, and secure in all winds. There is not the least danger in going into this harbour, giving the low rocks above water, at the entrance, on the port hand, a berth of one cable's length.

About a mile westward of *Mortier East Head* is **LITTLE MORTIER BAY**, at the entrance of which is a round island, called *Mortier Island*, lying one-third of the

distance from the west side; it is bold to all round, and may be passed on either side. Close to the first point beyond the island, on the port side, going in, is another little island, close under the land; and two cables' length from it, in a direct line toward the outer island, is a sunken rock, on which the sea breaks in bad weather, which is the only danger in the bay.

BURIN ISLAND LIGHTHOUSE stands on *Dodding Head*, and shows a bright revolving light every 20 seconds, at an elevation of 410 feet above the sea, and may consequently, under very favourable circumstances, be seen at 30 miles off, but its great elevation is against depending on this. The appearance of this light is not very dissimilar to that on Cape Pine.

On the main, within the islands, lie the harbours of *Great* and *Little Burin*. Vessels bound for Burin may pass on either side of Iron Island; the only danger in passing to the northward is the ledge called the *Brandys*, which almost always break; they lie near a quarter of a mile to the southward of a low rock, above water, close under the land of Mortier West Head. By keeping Mortier West Head open to the westward of Iron Island, you will avoid *Gregory's Rock*, on which is only 2 fathoms of water, and which almost always breaks. Vessels may pass with safety between this rock and Iron Island, by giving the latter a berth of above a cable's length.

On the main, within Pardy's Island, are two remarkable white marks in the rocks; the northernmost of these brought on with the north part of Pardy's Island and Iron Island N.E. $\frac{1}{2}$ N. will lead on the *Gallopings Andrews*, a shoal with 5 fathoms of water on it.

The *White Horse* is a shoal with 8 fathoms of water on it, which bears S.S.E. one mile from Iron Island.

The *Dodding Rock* lies about a quarter of a mile from the easternmost part of Great Burin Island.

Shalloway Island lies N.N.W. $\frac{1}{2}$ W. one mile from Cat Island, and N.E. by E. a quarter of a mile from Little Burin Island; the passage into BURIN HARBOURS, from the southward, is to the westward of Shalloway Island.

In sailing in, take to give *Foor Island* a berth on your port hand; and, when within Shalloway Island, you may anchor in safety between it and Great Burin Island, in from 12 to 18 fathoms. The best anchorage in Great Burin Harbour is in *Ship Cove*. The course up to it, after you are within Neck Point, which is to the westward of the Shalloway Island, is N.N.E. about $1\frac{1}{2}$ mile. It is about a quarter of a mile wide: in sailing up, keep the west shore on board, in order to avoid a sunken rock on the east shore, at about half-way up, and about a cable's length from the shore. Another rock, with $2\frac{1}{2}$ fathoms on it, lies above a cable's length to the S.W. of Harbour Point, which is round and green, and of moderate height, joined to Great Burin Island by a low, narrow, sandy neck.

BURIN BAY is about one mile N.N.E. of Little Burin Island: it is clear, and about a mile wide every way: here ships may occasionally anchor, and lie almost land-locked.

BURIN INLET may be entered on either side of the island; it extends up 5 miles: a little within the entrance on the east side, half a cable's length from the shore, is a rock covered at three-quarters flood; and $1\frac{1}{2}$ mile from the entrance, near the middle, is another rock, to the westward of which is good room, and good anchorage, in from 7 to 12 fathoms. The east passage in is between Pardy's Island and Iron Island: but is not safe without a commanding gale, and that between the N.N.E. and S.E.

CORBIN HARBOUR is about a mile to the northward of Corbin Head, and is a good harbour for small vessels. A quarter of a mile eastward from this harbour, and 2 cables' length from the shore, is a sunken rock, of 5 or 6 feet of water, on which the sea breaks in bad weather.

St. Lawrence.—The harbour of LITTLE ST. LAWRENCE is the first to the westward of Corbin Harbour. To sail in, you must keep the west shore on board, to

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avoid a sunken rock, which lies a little without the point of the peninsula, which stretches off from the east side of the harbour. The anchorage is above the peninsula (which shelters it from the sea-winds), in 3 or 4 fathoms of water, a fine sandy bottom. Ships may anchor without the peninsula in 12 fathoms, good ground, but this place is open to S.S.E. winds.

The harbour of GREAT ST. LAWRENCE, which is the westernmost, is close to the eastward of Cape Chapeau Rouge. To sail in, you should be careful westerly, particularly with S.W. winds, not to approach too near the *Chapeau Rouge*, or *Red-Hat Mountain*, in order to avoid the flaws and eddy winds under the high land. There is no danger but what is very near the shore.

IV.—THE COAST WESTWARD OF CAPE CHAPEAU ROUGE, WITH THE ISLANDS OF ST. PIERRE AND MIQUELON.

Ferryland Head lies W.S.W. one mile from Cape Chapeau Rouge; it is a high rocky island, just separated from the main.

W.N.W. 5 miles from Ferryland Head, lies the *Bay of Laun*, in the bottom of which are two small inlets, called *Great* and *Little Laun*. *Little Laun*, the easternmost, is no place to anchor in. *Great Laun* lies in about N.E. by N. 2 miles; is near half a mile wide, and has from 14 to 3 fathoms of water. In sailing in, be careful to avoid a sunken rock, which lies about a quarter of a mile off the east point.

LAUN ISLANDS lie off the west point of Laun Bay, not far from the shore; the westernmost and outermost of which lie W.N.W. westerly 10 miles from Ferryland Head. Nearly a quarter of a mile to the southward of this island is a rock, whereon the sea breaks in very bad weather; there are other sunken rocks about these islands, but not dangerous, being very near the shore.

Point Aux Gaul is a low point of land: a rock lies off it above water, half a mile from the shore, called *Gaul Shag Rock*, which bears from Ferryland Head W.N.W. $\frac{1}{2}$ W. 5 leagues: there are 14 fathoms close to the off-side of it.

From *Point Aux Gaul Shag Rock* to the **LAMELIN ISLANDS**, the bearing and distance are N.W. by W. one league; between is the Bay of *Lamelin*, which lies behind two islets, with a flat marshy shore on the other side; it is used by the fishing-boats. Near the south point of the westernmost *Lamelin Island* is a rock pretty high above water, called *Lamelin Shag Rock*.

From *Lamelin Shag Rock* to *Point May*, the distance is 8 miles; between lie the *Lamelin Ledges*, which are very dangerous, some of them being 3 miles from the land. To avoid them in the day-time, you should not bring the *Lamelin Islands* to the southward of E.S.E. until *Point May* bears N.E. by N. from you: you may then steer northward between *Point May* and *Green Island* with safety. By night, approach no nearer than in 30 fathoms of water.



View of Cape Chapeau Rouge, or the Mountain of the Red Hat, N. $\frac{1}{2}$ W. $9\frac{1}{2}$ miles; taken by the circumnavigator, Captain James Cook, F.R.S.

ST. PIERRE, or ST. PETER'S ISLAND.—The island of St. Pierre lies 11 leagues W. by N. from Cape Chapeau Rouge; it is about 4 leagues in circuit, and is barren in the extreme; it is a mass of rocky hummocks rising to a height of 400 or 500 feet directly from the water, and destitute of any trees. On coming from the westward, Galantry Head, which is the S.E. point of the island, makes in a round hummock, like a small island, separated from St. Pierre, and on it is a fixed light, visible 15 miles off. The port is on the eastern side of the island, at only a mile to the north-westward of Point Cronier, the easternmost point; and it is bounded on the east by Chien, or Dog Island, eastward of which are several islets and rocks. The passage in, between Chien Island and St. Pierre, is very narrow, and bordered with rocks, but in mid-channel are 6, 4, 3½, 5, and 6 fathoms.

LIGHTS.—*Galantry Head* light, just mentioned, is in latitude 46° 46' 3", longitude 56° 9' 7", shown from a tower 36 feet high, at an elevation of 210 feet above H.W.; to be seen 18 miles off.

Upon *Canon Point*, on the north side of the entrance to the inner harbour, in lat. 46° 46' 52", long. 56° 9' 38", is a lighthouse, with fixed harbour-light, about a quarter of a mile eastward of the town, which is kept up from the 1st of May to the 15th of December. With this lighthouse bearing W. by N. or W. ½ N. about 2 cables' length, there is anchorage in 5½ and 6 fathoms of water. This light is only shown in the passage.

The Harbour of St. Pierre is small, and well sheltered from all winds. It has three entrances, all of which can be taken with a little attention. It has from 20 to 12 feet of water. The only danger that cannot be seen is a small rock (*l'Enfant Perdu*), lying about one mile east, true, from the *Isle aux Bours*, the *Vainqueur* of the late charts. The road lies on the N.W. side of Chien or Dog Island, and will admit ships of any burthen in 8, 10, or 12 fathoms of water. The anchorage is on the north side; but in general it is rocky, and exposed to the N.E. winds.

The *Colombier*, so called from its similarity to a dove-cote, from the great flocks of puffins which breed here, and are always flying about it in great flocks, lies very near to the N.E. point of St. Pierre, and is pretty high; between is a passage of one-third of a mile wide, with 12 fathoms of water, but there is a reef on the south side. On the north side of the island is a rock called *Little Colombier*, and about one-quarter of a mile E.N.E. from it is a sunken rock, with 2 fathoms on it.

GREEN ISLAND is about three-quarters of a mile in circuit, and low; it lies E.N.E. about 5 miles from St. Pierre, and nearly in the middle of the channel between it and Newfoundland; on its south side are several rocks above and under water, extending 1½ mile to the W.S.W.

LANGLEY, or LITTLE MIQUELON.—This island lies to the N.W. of St. Pierre, with a passage of about 2½ miles wide between, free from danger. It is about 8 leagues in circuit, of a moderate and pretty equal height, excepting the north end, which is low, and sand-hills; off which, on both sides, it is flat a little way; but every other part of the island is bold-to. It is a much more pleasant place than St. Pierre, and has a settlement in the N.E. bay. There is anchorage on the N.E. side of the island in 5 or 6 fathoms, a little to the southward of the Sand-hills, on a fine sandy bottom.

MIQUELON was formerly distinct from Langley, and on all old charts a channel of 2 fathoms is marked as running between them. This, however, is now entirely filled up, and a long, narrow line of sand-hills, with a beach on each side, occupies its place. Instances have been known, even of late years, of vessels in stress of weather making for this channel, and being wrecked on the sands. Miquelon is 4 leagues in length from north to south, and is about 5 miles in breadth at the widest part: the middle of the island is high land, called the *High Lands of Dunn*; but down by the shore it is low, excepting *Cape Miquelon*, which is a lofty promontory at the northern extremity of the island.

Miquelon Road, which is large and spacious, lies at the north end, and on the east side of the island, between *Cape Miquelon* and *Chapeau*; the latter is a very remarkable round mountain near the shore, off which are some sunken rocks, at the distance

of about a quarter of a mile; but everywhere else it is clear of danger. The best anchorage is in 6 or 7 fathoms, near the bottom of the road, on fine sandy bottom; but you lie exposed to easterly winds.

Miquelon Rocks stretch off from the eastern point of the island, under the high land, 1½ mile to the eastward: some are above, and some under water; the outermost are above water, and there are 12 fathoms of water close to them, and 18 or 20 a mile off. N.E. by E. ¼ E. about 4 miles from these rocks lies *Miquelon Bank*, on which are 6 fathoms of water.

The *Seal Rocks*, two in number, are above water, and lie about 5 miles off from the middle of the west side of *Miquelon*; the passage between them and the island is very safe; and there are 14 or 15 fathoms of water within a cable's length, all around them.

NOTE.—“The Islands of *St. Pierre*, *Langley*, and *Miquelon*, were ceded to France by England, on condition that no forts should be built on either; that no more than fifty men of regular troops should be kept there, and that they should have no military stores, or cannon, capable of making a defence. During the late hostilities, these isles were annexed to the Government of Newfoundland, having been taken possession of by the British forces, 14th May, 1793; but they were ultimately restored to France, on the original conditions, by the treaty of 1814.”

V.—FORTUNE BAY AND THE COAST WESTWARD TO THE BERGEON ISLES.

FORTUNE BAY, &c.—From *Point May*, on the south, to *Pass Island*, on the north, the bearing and distance are N. by E. 12 leagues: between is the entrance to **FORTUNE BAY**, which is about 22 or 23 leagues deep: and in which are several bays, harbours, and islands.

The Island *Brunet* lies pretty nearly in the middle of the entrance into *Fortune Bay*; it is about 5 miles in length: on its N.E. side is a bay, wherein there is tolerably good anchorage for ships, in 14 or 16 fathoms of water, sheltered from southerly and westerly winds. In the bottom of the bay, at about a quarter of a mile from the shore, are some rocks, which must be avoided. The islands lying off the west end of *Brunet*, to the southward, are called the *Little Brunets*, which, with *Brunet*, may be approached within a quarter of a mile all round.

The *Plate Islands* are three rocky islets, of a moderate height, the nearest of which lies W.S.W. one league from the end of *Great Brunet*. The southernmost is about 2 miles farther off, and bears from *Cape Miquelon* E. ¼ S. 11 miles; and, in a direct line between *Point May* and *Pass Island*, 17 miles from former, and 19 miles from the latter, E.S.E. a quarter of a mile from the *Great Plate* (which is the northernmost) is a sunken rock, whereon the sea breaks, which is the only danger about them.

There are several strong and irregular settings of the tides or currents about the *Plate* and *Brunet* Islands, which seem to have no dependency on the moon and the course of the tides on the coast.

Point May is the southern extremity of *Fortune Bay*, and the S.W. extremity of this part of Newfoundland; it may be known by a great black rock, nearly joining to the pitch of the point, and something higher than the land, which makes it look like a black hummock on the point. At about a quarter of a mile directly off from this black rock are three sunken rocks, on which the sea always breaks.

N. by E. 1½ mile from *Point May*, is *Little Dantzick Cove*; and 2 miles farther is *Great Dantzick Cove*. From *Dantzick Point* (which is the north point of the coves) to *Fortune Head*, the bearing and distance are 2½ leagues E.N.E.; and thence to *Fortune*, 1½ mile S.E. by E. This is a fishing village, and the road where the

ships lie has 6 to 10 fathoms of water, quite exposed to nearly half the compass. It lies S.S.W. from the east end of Brunet.

The CAPE OF GRAND BANK is pretty high, and lies one league E.N.E. from Fortune. To the eastward of this cape is *Ship Cove*, where there is good anchorage for shipping in 8 or 10 fathoms of water, sheltered from southerly, westerly, and N.W. winds. Grand Bank lies S.E. half a league from the cape: this is a fishing village, and here is no security for shipping.

From the Cape of the Grand Bank to the Point Enragée, the course is E.N.E. $\frac{1}{2}$ E. distance 8 leagues: the coast between forms a bay, in which the shore is low, with several sandy beaches, behind which are bar-harbours, fit only for boats. The shore is bold all the way from Point May to Cape of Grand Bank.

HARBOUR MILLÉ.—The entrance of Harbour Millé lies to the eastward of the east point of *L'Argent*, which is 20 miles eastward of Point Enragée. Before this harbour, and the Bay *L'Argent*, is a remarkable rock, which, at a distance, appears like a shallop under sail. Harbour Millé branches into two arms, one lying to N.E., the other to the east; at the upper part of both is good anchorage. Between this harbour and Point Enragée are several bar-harbours, in small bays, wherein are sandy beaches: but the water all along the coast is very deep.

Cape Mille lies N.E. $\frac{1}{2}$ E. one league from the Shallop Rock above mentioned, and nearly 3 leagues from the head of Fortune Bay: it is a high reddish barren rock. The width of Fortune Bay at Cape Millé does not exceed half a league; but, immediately below it, it is twice as wide, by which the cape may readily known; above this cape the land on both sides is high, with steep craggy cliffs.

Grand Pierre is a good harbour, situated on the north side of the bay, half a league from the head. The entrance cannot be seen until you are abreast of it; there is no danger in going in, and you may anchor in any depth from 8 to 4 fathoms, sheltered from all winds.

English Harbour lies a little to the westward of Grand Pierre; and to the westward of English Harbour is the Little Bay de l'Eau, both of which are small. *New Harbour* is situated opposite to Cape Millé, to the westward of the Bay de l'Eau: it is a small inlet, and has good anchorage on the west side, in from 8 to 5 fathoms, sheltered from S.W. winds. The *Harbour Femme* lies half a league to the westward of New Harbour; and one league to the westward of Harbour Femme, is Brewer's Hole, fit only for boats.

Harbour la Conte is situated one mile to the westward of Brewer's Hole, before which there are two islands, one without the other. The best passage in is on the west side of the outer island, and between the two; so soon as you begin to open the harbour, keep the inner island close on board, to avoid some sunken rocks that lie near a small island, which you will discover between the N.E. point of the outer island, and the opposite point on the main: also another rock which appears at low water, and lies higher up on the side of the main. So soon as you observe these dangers, you may keep in the middle of the channel, and will open a fine spacious harbour, wherein you may anchor in any depth, from 6 to 15 fathoms of water, on a bottom of sand and mud, shut in from all winds.

Long Harbour lies 4 miles to the westward of Harbour la Conte, and N.E. by E. 5 leagues from Point Enragée. It may be known by Gull Island, which lies at its mouth, and a small rock, which lies half a mile without the island, and has the appearance of a small boat: this harbour runs 5 leagues into the country, but the only anchoring is in *Morgan's Cove*, on the N.W. side of the Harbour, about 2 miles within Gull Island, in 15 fathoms of water, unless you run above the Narrows.

A little to the westward of Long Harbour is **BELLE BAY**, which extends about three leagues each way, and contains several bays and harbours. On the east point of this bay is *Hare Harbour*, fit for small vessels only. Two miles to the northward of Hare Harbour is *Mal Bay*.

BELLE HARBOUR lies 4 miles N.W. by N. from the westernmost Recontre Island;

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it is but an indifferent harbour. About $1\frac{1}{2}$ mile westward of Belle Harbour is *Lally Cove*, fit for small vessels only. Two miles to the northward of Lally Cove Head is the Bay of the *East* and the Bay of the *North*; in both of these there is deep water, and no anchorage near the shore.

The bay of *Cinq Isles* lies to the southward of North Bay, and opposite to Lally Cove Head; there is tolerably good anchorage for large ships on the S.W. side of the islands, in the bottom of the bay. A little to the southward of the bay of *Cinq Isles* is Corben Bay, where there is good anchorage for any ships in 22 or 24 fathoms of water.

Between Dog Island and *Lord and Lady Island*, which lies off the south point of Corben Bay, something nearer to the latter is a sunken rock, with deep water all round it; and, about a quarter of a mile to the northward of Lord and Lady Island, is a rock, which appears at low water.

BANDE DE L'ARIER BAY lies on the west point of Belle Bay, and N. $\frac{1}{2}$ W. 3 leagues from Point Enragée; it may be known by a very high mountain over the bay, which rises almost perpendicular from the sea, called Iron Head. Chapel Island, which forms the east side of the bay, is high land also; the harbour lies on the west side of the bay, just within the point formed by a narrow low beach, and is a snug place: between the harbour and Iron Head there is tolerably good anchorage in 18 or 20 fathoms.

Bande de l'Arier Bank has 7 fathoms of water on it, and lies with the beach of *Bande de l'Arier Harbour* just open of the west point of the bay, and Boxy Point on with the end of St. Jacques Island.

Two miles to the westward of *Bande de l'Arier* is the harbour of *St. Jacques*, which may be readily known by the island before it being high at each end, and low in the middle. The passage into the harbour is on the west side of the island, free from danger, as is the harbour, where you may anchor in from 17 to 4 fathoms.

Boxy Point lies W. $\frac{1}{2}$ S. 8 miles from St. Jacques Island, and E.N.E. $\frac{1}{2}$ E. $12\frac{1}{2}$ miles from the east end of Brunet Island; it is of a moderate height, and the most advanced to the southward of any land on the coast. *Boxy Harbour* lies N.E. 3 miles from *Boxy Point*, in which there is anchorage in 4 or 5 fathoms of water, fine sandy ground.

W.N.W. one mile from *Boxy Point* is the *Island of St. John*, and N.N.W. half a league from St. John's Island is St. John's Head, high, steep, and craggy.

The *GREAT BAY DE L'EAU* is about $1\frac{1}{2}$ league to the northward of St. John's Head. In this bay there is good anchorage in various depths, sheltered from all winds. The passage in is on the east side of the island, which lies in its entrance.

To the westward of Bay de l'Eau, about 3 miles north from St. John's Head, is *Little Barrysway* or *Barachois*, on the west side of which there is good anchorage for large ships in 7, 8, or 10 fathoms.

Harbour Briton lies to the westward of *Little Barrysway*, N.N.E. $1\frac{1}{2}$ league from the *Island of Sagona*, and N.E. by N. from the east end of Brunet. The heads which form the entrance are pretty high, and lie from each other S.E. and N.W., distant about 2 miles. Near the east head is a rock above water. The only danger in going in is a ledge of rocks, which stretch 2 cables' length from the south point of the S.W. arm, which is more than a mile within the west head. The only place for large ships to anchor in is above this ledge, before the entrance of the S.W. arm, in 16 or 18 fathoms, mooring nearly east and west; the bottom is very good, and plenty of wood and water is to be obtained here.

Opposite to the S.W. arm is the N.E. arm, or *Jerseyman's Harbour*, which is capable of holding a great number of ships, secure from all winds, in 6, 7, and 8 fathoms of water: it has a bar at the entrance, on which there are 3 fathoms.

From the West End of *Harbour Briton* to *Connaigre Head*, the bearing and distance are W. $\frac{1}{2}$ N. $5\frac{1}{2}$ miles; between are *Gull Island* and *Deadman's Bay*, off which there

is a bank stretching from the shore between 2 and 3 miles, whereon the depths vary from 34 to 4 fathoms.

Connaigre Bay.—From Connaigre Head, which is high and craggy, to *Basseterre Point*, the bearing and distance are N.W. $\frac{1}{2}$ W. 7 miles; between is Connaigre Bay, which extends about 4 leagues inland. In the mouth of the bay lie the Connaigre Rocks, above water, which may be approached very near, there being no danger but what shows itself: the channel between them and Connaigre Head is the safest, as a ledge of rocks extends a mile from the north shore, which renders the other channel rather dangerous.

Connaigre Harbour is near 5 miles above the head, within a point on the south side of the bay; it is very small, and the depth of water is 7 fathoms; the passage in is on the S.E. side of the island, which lies before it.

From *Basseterre Point*, which is clear of wood, to *Pass Island*, the bearing and distance are N.W. by N. one league. This island forms the N.W. extremity of Fortune Bay; it lies very near the shore, and is above a mile long. On its S.W. side are several rocks above water, which extend a mile off; and on the N.W. side is a sunken rock, at a quarter of a mile from the island.

In the night-time, or in foggy weather, too great dependence should not be placed on the soundings in Fortune Bay; for there is more water in many parts near the shore, and in several of its contained bays and harbours, than in the middle of the bay itself.

HERMITAGE BAY.—From *Pass Island* to the west end of Long Island, the bearing and distance are, N.E. eight miles: between is the entrance of Hermitage Bay, which extends $7\frac{1}{2}$ leagues east from *Pass Island*, with very deep water in most parts of it.

Hermitage Cove is on the south side of the bay, about $3\frac{1}{2}$ leagues above *Pass Island*, opposite which, and nearly in the middle of the bay, lie the two Fox Islands: to go into the cove, keep between the islands and the south shore, where there is not the least danger. In the cove there is good anchorage in 8 or 10 fathoms.

LONG ISLAND, which separates the *Bay of Despair* from Hermitage Bay, is of a triangular form, about 8 leagues in circuit. The west entrance into the Bay of Despair from Hermitage Bay is by the west end of Long Island. About half a mile from its S.W. point are two rocks above water, with deep water all round them. The east passage is also very good, and is between the east end of Long Island and the main, called the *Passage of Long Island*.

There are four harbours on the south side of Long Island, the easternmost of which is called *Gataus*: the latter is but small, and lies near the east point of the island; the best channel into the harbour is on the west side of several rocky islands, which lie at the entrance, wherein are four fathoms, but in the harbour are from 15 to 24 fathoms. The next is *Picarro*, which lies N. by E. half a league from the easternmost Fox Island; in going in here, keep near the west point, in order to avoid sunken rocks off the other: the anchorage is in the first cove on the east side, in 9 or 10 fathoms, sheltered from all winds.

The next harbour, called *Round Harbour*, is fit only for small vessels.

Long Island Harbour is the fourth, and it lies about $2\frac{1}{2}$ miles from the west end of Long Island. This harbour has two arms, one lying in to the north; the other eastward: they are both very narrow, and have from 40 to 7 fathoms of water; the eastern arm is the deepest, and affords the best anchorage. The passage in is on either side of an island which lies off the entrance, and has several rocks above water about it, but they are both narrow.

BAY OF DESPAIR.—The entrance of the Bay of Despair lies between the west end of Long Island and Great Jervis Island (which lies in the mouth of the harbour of that name); the distance between is one mile and a quarter, and midway no bottom is found with a line of 280 fathoms.

The Bay of Despair forms two capacious arms, one extending to the north-eastward,

the other northward: in the north arm there is very deep water, and no anchorage excepting in the small bays and coves which lie on each side of it. In the N.E. arm are several arms and islands, and tolerably good anchorage in several places.

GREAT JERVIS HARBOUR is situated at the west entrance into the Bay of Despair; it is a safe harbour, with good anchorage on every part of it, in from 16 to 20 fathoms, secure from all winds, and plenty of wood and water. The passage in is on either side of Great Jervis Island; but the southernmost channel is the safest, there being no danger in it but the shore itself. In the northern channel are several sunken rocks.

Bonne Bay lies about a league to the westward of Great Jervis Head, and N.N.E. 7 miles from Pass Island; it has several islands in its mouth, the westernmost of which is the largest and highest. The best passage in is to the eastward of the largest island, between it and the two easternmost islands. The bay lies in north 4 miles, and there is no danger but what shows itself; you may go on either side of *Drake Island*, which is small, and nearly in the middle of the bay; between which, and two small islands on the west side of the bay, within Great Island, there is anchorage in 20 or 30 fathoms; but the best place for large ships is near the head of the bay, in 12 or 14 fathoms, clear ground, and convenient for wood and water. On the N.W. side of Great Island, within the two small islands, is very good anchorage in from 16 to 24 fathoms, secure from all winds; the entrance to this from the bay is to the northward of the two small islands. In sailing in or out of the bay, approach not too near the south point of Great Island, as there are some sunken rocks lying at one-quarter of a mile from shore.

W.N.W. 4 miles from Bonne Bay, is the entrance to the Bays of **FACHEUX** and **DRAGON**: this entrance being very conspicuous at sea, the coast may here be readily known.

Facheux, which is the easternmost branch, lies in N.N.E. 2 leagues, and is one-third of a mile wide at the entrance, with deep water in most parts of it. On the west side of the bay are three coves, where ships may anchor in from 10 to 20 fathoms. **Dragon Bay** lies in N.W. one league, and is near half a mile wide, with 60 or 70 fathoms of water, and no anchorage excepting near the head.

One league to the westward of Facheux is **Richard's Harbour**, a place fit only for small vessels. N.W. by W. one league from Richard's Harbour is **Hare Bay**, which runs in N.N.E. about 5 miles, and is about one-third of a mile wide, with deep water close home to both shores on all parts of it, except about one league up on the west side, where there is good anchorage, in from 8 to 15 fathoms, with plenty of wood and water; and a small cove about one mile up on the east side, where there are 20 fathoms, with gradual soundings to the shore.

The **Bay of Rencontre** lies to the northward of Hare's Ears Point, and runs in N.W. by W. 2 leagues; it has deep water in most parts of it, and is near half a mile wide at the narrowest part. The anchorage is in 30 fathoms, above a low woody point on the south shore, quite land-locked.

Hare's Ears Point is pretty large, with a ragged rock upon it, which, from some points of view, looks like the ears of a hare. It divides the Bays of **Rencontre** and **Chaleur**, and lies N.W. $\frac{1}{2}$ W. 6 leagues from Pass Island.

W.N.W. 2 miles from Hare's Ears Point is the Bay of **Chaleur**; which runs in about 2 leagues N.N.W. It is very narrow, and has deep water in most parts.

West, near half a league from the Bay of Chaleur, is the Bay **François**, a small inlet; and west, 4 miles from the Bay François, on the east side of Cape la Hune, lies **Our Bay**; off the east point of the entrance of the latter is a low rocky islet; and, in the entrance of the bay is another with a passage on each side of it.

CAPE LA HUNE is the southernmost point of land on this part of the coast, lat. $47^{\circ} 31' 55''$, long. $56^{\circ} 50' 23''$, N.W. by W. $\frac{3}{4}$ W. $8\frac{1}{2}$ leagues from *Pass Island*, and N. by W. $\frac{1}{4}$ W. $10\frac{1}{2}$ leagues from Cape Miquelon; its figure much resembles a sugar-loaf: this cape may also be known by the high land of Cape La Hune, which lies one

league to the westward of it, appears pretty flat at the top, and may be seen from a distance of 16 leagues.

THE PENGUIN ISLANDS lie S.W. by W. $\frac{1}{2}$ W. 11 miles from Cape La Hune, and N.W. $\frac{1}{2}$ N. 10 leagues from Cape Miquelon; they are an assemblage of barren rocks lying near to each other, and altogether about two leagues in circuit; and may be approached in the day-time to the distance of half a league all round.

E.S.E. $\frac{1}{2}$ E. 7 miles from the Penguin Islands, and S. by W. 3 leagues from Cape La Hune, lies the *Whale Rock*, on which the sea generally breaks; it is about 100 fathoms in circuit, with 10, 12, and 14 fathoms of water close to all round. From this rock a narrow bank extends, one league to the westward, and half a league to the eastward, with from 24 to 58 fathoms of water on it, rocky and gravelly bottom. In the channel between the shore and this rock, and also between the shore and the Penguin Islands, are 120 and 130 fathoms of water, muddy bottom, and there are the same bottom and depth of water at one league without them.

LA HUNE BAY lies close to the westward of Cape La Hune: it is about 2 leagues deep, and one-third of a mile wide, with deep water in most parts of it; but there is a sunken rock which lies off the west point of the entrance, nearly one-third of the channel over. *La Hune Harbour* lies half a league to the westward of Cape La Hune; it is fit for small vessels only.

Four leagues N.W. $\frac{1}{2}$ W. from Cape La Hune, is the entrance of *Little River*, a little way up there is anchorage in 10, 8, and 7 fathoms of water, good ground. Between Cape La Hune and Little River, the land is tolerably high, and forms a bay, where there are several small islands and rocks above water, the outermost of which lie N.N.E. $\frac{1}{2}$ E. 3 leagues from the Penguin Islands, and are called the *Magnetic Rocks*.

S. by W. $\frac{1}{2}$ W. 7 miles from the entrance of Little River, and N. by W. $\frac{1}{2}$ W. from the Penguin Islands, lie the *Little River Rocks*, which are just above water, with very deep water all round them.

The Ramea Isles, which are of various extent, both in height and circuit, lie N.W. $\frac{1}{2}$ N. $5\frac{1}{2}$ leagues from the Penguin Islands, and one league from the main: they extend east and west 5 miles, and north and south 2 miles, and have several rocks and breakers about them; but more on the south side than on the north. The easternmost island is the largest, and is very high and hilly: the westernmost, called *Columbe*, is a remarkably high round island, of small circuit, with some rocky islands and sunken rocks near it. There is a harbour for small vessels, formed by the islands which lie near Great Ramea and the Columbe, called *Ramea Harbour*, where they may lie sheltered from all winds.

The Ramea Rocks are two in number, close to each other; they lie about south 4 miles from the east end of Great Ramea; W.S.W. one league from these rocks is a small bank with only 6 fathoms of water on it; and, nearly in the middle, between Ramea and the Penguin Islands, is a bank with from 14 to 50 fathoms of water.

Four miles to the westward of Little River is *Old Man's Bay*, which lies in N.N.E. about 7 miles, and is about a mile wide; the water throughout the bay is very deep; the best anchorage is at the head, in 14 or 16 fathoms.

MOSQUITO HARBOUR lies about half a league to the westward of Old Man's Bay; it is a snug and safe harbour, but the entrance is so narrow, being only 48 fathoms in breadth, that it is difficult to get in or out.

Fox Island Harbour is formed by an island of the same name; it lies about half a league to the westward of Mosquito Harbour; between are several rocky islands and sunken rocks. This is a commodious harbour for small vessels, which may anchor in 8, 9, and 10 fathoms of water. You may go in on either side of the island, and there is no danger but what shows itself.

White Bear Bay lies about two miles to the westward of Fox Island Harbour, and N.N.E. one league from Great Ramea Island; it has several islands in its mouth. It lies in N.E. $\frac{1}{2}$ N. about 4 leagues, is near half a mile wide in the narrowest part,

and has deep water close to both shores in most parts, to the distance of 8 miles up; then the ground rises at once to 9 fathoms, whence it shoals gradually to the head with good anchorage. The best passage into the bay is to the eastward of all the islands. On the S.W. side of Bear Island, which is the easternmost and largest in the mouth of the bay, is a small harbour, lying in east half a mile, with from 10 to 22 fathoms of water; but there are several sunken rocks before its mouth, which render it difficult of access.

Six miles to the westward of White Bear Bay, and N. $\frac{1}{2}$ E. from Ramea Columbe, are two small harbours, called Red Island Harbours, formed by *Red Island*, which lies close under the land. The westernmost is the largest and best, and has from 6 to 8 fathoms of water, good anchorage. In going in, keep the island close on board, the outer part of which is composed of steep red cliffs.

VI—THE SOUTH COAST FROM THE BURGEO ISLANDS TO CAPE RAY.

THE BURGEO ISLES are a cluster of islands extending about 5 miles along shore, and forming several snug and commodious harbours. They lie about 3 leagues N.W. by N. from Ramea Columbe. To sail into Burgeo from the eastward, the best passage is on the N.E. side of *Boar Island*, which is the northernmost, and lies N.N.W. from Ramea Columbe. S.E. by S. from this island half a league, is a rock uncovered at low water, on which the sea generally breaks; you may go on any side of this rock, the water being deep all round it: so soon as you are to the N.W. of it, keep the north side of Boar Island on board, and W. $\frac{1}{2}$ N. for *Grandy's Cove*, the north point of which is the first low point on your starboard bow; haul round that point, and anchor in the cove in 14 fathoms, and moor with a fast on shore. The best place for large ships to anchor in is, betwixt Grandy's Cove and a small island, lying near the west point of Boar Island, in 20 to 24 fathoms, good ground, and sheltered from all winds. To sail into Grandy's Cove from the westward is dangerous, unless well acquainted: there are several safe passages in from the southward and eastward, between the islands, and good anchorage; and in bad weather all the sunken rocks discover themselves, and you may run in without any fear.

NOTE.—“The position of the Burgeo Isles was given by Captain Cook, from a solar eclipse, in August, 1766, as $47^{\circ} 36' 20''$ N. and $57^{\circ} 36' 30''$ W., as shown in the Philosophical Transactions of 1767. The same spot, *Eclipse Island*, as communicated by the late surveyors, is latitude $47^{\circ} 36' 6''$ N. and longitude $57^{\circ} 36' 15''$ W.”

WOLF BAY extends inward N.E. by E. one league; the entrance is E.N.E. 2 miles from Boar Island, and two miles to the westward of Red Island Harbour; the east point of the entrance is composed of low rugged rocks, off which is a sunken rock, at the distance of a quarter of a mile. Near the head of the bay is tolerably good anchorage, and plenty of wood and water.

King's Harbour lies round the west point of Wolf Bay, and lies in N.E. by E. three-quarters of a mile; before its mouth is a cluster of little islands. To sail in, keep the east point of the islands on board, and steer N. by W. and north from the entrance of the harbour, and anchor under the east shore in 9 fathoms.

HA-HA.—On the south side of the islands before *King's Harbour*, and north one mile from Boar Island, is the entrance into the Ha-Ha, which lies in W.N.W. one mile, and is about a quarter of a mile broad, with from 20 to 10 fathoms of water, and good ground all over. Over the south point of the entrance into this harbour is a high green hill; and a cable's length and a half from the point is a sunken rock that always shows itself. Over the head of the Ha-Ha, is *Richard's Head*, mentioned as a mark for running upon Ramea Shoal.

About 4 miles to the westward of the Burgeo Isles, is the **GREAT BARRYSWAY POINT**, which is low, white, and rocky; and N.E. by E. half a league from this point is the west entrance into the Great Barrysway, wherein are room and depth of

water for small vessels. Between the Burgeo Isles and the Great Barrysway Point, are several sunken rocks, some of which are half a league from the shore.

Connoire Bay.—N.W. $\frac{1}{2}$ N. 4 leagues from the Burgeo Isles, is the east point of the BAY OF CONNOIRE: this point is so far remarkable that it rises with an easy ascent to a moderate height, and much higher, than the land within it: the west point of the bay is low and flat, and to the westward of this are several small islands. The bay lies in N.E. by N. about a league from the east point to the middle head, which lies between the two arms, and is half a league wide, with 14, 12, 10, and 8 fathoms, close to both shores, good anchorage, and clear ground, but open to S.W. winds. The N.E. arm affords shelter for small vessels from all winds. To sail in, keep nearest the starboard shore, and anchor before a small cove on that side, near the head of the arm, in $3\frac{1}{2}$ fathoms.

The BAY OF CUTTEAU lies about two leagues to the westward of Connoire: its depth will admit small vessels only. Round the west point of Cutteau is *Cinq Serf*, wherein are a number of islands, which form several small snug harbours. Right off *Cinq Serf*, about half a league from the shore, is a low rocky island, westward of which is the safest passage into the largest harbour.

Four miles to the westward of the rocky island of *Cinq Serf*, is the harbour of *Grand Bruit*, which is small and commodious; and may be known by a very high remarkable mountain over it, half a league inland, which is the highest land on all the coast: down this mountain runs a considerable brook, which empties itself in a cascade into the harbour. Before the mouth of the harbour are several little islands, the largest of which is of middling height, with three green hillocks on it. A little without this island is a round rock, pretty high above water, called the *Columbe of Great Bruit*; and a quarter of a mile to the southward of this rock, is a low rock: in the direct line between the low rock and the rocky isles of *Cinq Serf*, half a league from the former, is a sunken rock, whereon the sea does not break in fine weather. The safest passage into *Grand Bruit* is to the N.E. of this rock, and of the islands lying before the harbour, between them and the three islands (which are low, and lie under the shore): and after you are to the northward of the sunken rock above mentioned, there is no danger but what shows itself. The harbour extends N.N.E. half a mile, and is but a quarter of a mile wide in the broadest part; but it is bold to on both sides, and has a depth of from 4 to 7 fathoms.

To the westward of *Grand Bruit*, between it and *La Poile Bay*, lies the *Bay of Rotte*, wherein are a great many islands and sunken rocks. The southernmost is a remarkable high round rock, called the *Columbe of Rotte*, which lies N.W. by W. $8\frac{1}{2}$ leagues from the southernmost of the Burgeos. Between this island and *Grand Bruit* is a reef of rocks, some above, and some under water, but they do not lie to the southward of the direct line between the islands. Within the islands of *Rotte* there is shelter for shipping.

LA POILE BAY is large and spacious, and has several commodious harbours. It may be known by the high land of *Grand Bruit*, which is only five miles to the eastward of it; and likewise by the land on the east side of the bay, which rises in remarkably high craggy hills, rising from a table land of 200 or 300 feet high. About $1\frac{1}{2}$ mile S.W. from the east point lies *Little Ireland*, a small low island, environed with sunken rocks, some of which are one-third of a mile off: north, about half a mile *Little Ireland*, is a sunken rock that shows itself at low water, which is the only danger in going into the bay, excepting such as lie very near the shore.

Two miles within the west point of the bay, and N. $\frac{1}{2}$ W. 2 miles from *Little Ireland*, is *Tweed* or *Great Harbour*; its south point is low, and it extends inward W.N. W. one mile: it is about $1\frac{1}{2}$ cable's length wide in the narrowest part: and the anchorage is near the head of the harbour, in 18 or 20 fathoms, clear ground, and sheltered from all winds. Half a mile to the northward of *Great Harbour*, is *Little Harbour*, the north point of which, called *Tooth Head*, is the first high bluff head on the west side of the bay: the harbour extends inward W.N.W. about a mile. In sailing in, give the south point a small berth. You may anchor about half-way up the harbour, in 10 fathoms of water.

GALLY BOY HARBOUR lies on the east side of the bay, opposite Tooth Head; it is small, snug, and convenient for ships bound to the westward. The north point is high and steep, with a white spot in the cliff. To sail in or out, keep the north side on board. You must anchor so soon as you are within the inner south point, in 9 or 10 fathoms, good ground, and sheltered from all winds. One mile to the northward of Gally Boy Harbour, between two sandy coves on the east side of the bay, and nearly two cables' length from the shore, is a sunken rock, that just uncovers at low water.

Broad Cove is about two miles to the northward of Tooth Head, on the same side of the bay. In this there is good anchorage in 12 or 14 fathoms.

About two leagues up the bay, on the eastern side, is the N.E. Arm, which is a spacious, safe, and commodious harbour. In sailing in, give the low sandy point on the S.E. side a small berth, and anchor above it where convenient, in 10 fathoms of water, good holding ground, sheltered from all winds, and very convenient for wood and water.

Indian Harbour and *De Plate* lie just within the outer west point of *La Poile Bay*; but they are not fit for shipping.

Little Ireland bears from the southernmost of the *Burgees* N.W. by W. $\frac{1}{4}$ W. $9\frac{1}{2}$ leagues; and lies nearly 12 leagues to the eastward of *Cape Ray*.

From Little Ireland to *Harbour la Coue* and *La Moine Bay*, the course is W.N.W. $\frac{1}{4}$ W. 11 miles; between lies the Bay of *Garia*, and several small coves, fit only for several small vessels; before these there are several small islands, and sunken rocks lying along the shore, but none of them lie without the above course. In bad weather, all the sunken rocks discover themselves. A ridge here runs into the country with three high bluffs on it, the high range of *Cape Ray* being visible over the intermediate country.

The S.W. point of the entrance into *Harbour la Coue*, called *Rose Blanche Point*, (near to which are rocks above water), is tolerably high, and the land near the shore over *Harbour la Coue* and *La Moine Bay* is much higher than any other land in the vicinity: by this they may be known. *La Moine Bay* extends N.E. $\frac{1}{4}$ E. about 4 miles, and is one-quarter of a mile broad in the narrowest part. Off the east point are some small islands and rocks above water. In sailing in, keep the west on board, until you have entered the bay; then edge over to the east shore, and run up to the head of the bay, where you may anchor in 10 or 11 fathoms, good ground: here is plenty of wood and water. To sail into *Harbour la Coue*, which lies at the west entrance into *La Moine Bay*, steer in N.N.W. between a rock above water, in the mouth of the harbour, and the west shore; so soon as you are within the rock, haul to the westward into the harbour, and anchor in 6 or 8 fathoms of water, and moor with a hawser on shore; or you may steer into the arm, which lies N.E. by E. from the harbour, and anchor in 20 fathoms, sheltered from all winds. To the westward of *Rose Blanche Point*, is the harbour of the same name; it is small and snug, and the anchorage is in 9 fathoms of water.

Seven miles to the westward of *Rose Blanche Point* are the *Burnt Islands*, which lie close under the shore, and are not to distinguished from it; behind these is shelter for small vessels. On these islands are sunken rocks, some of which are half a mile from shore.

W.N.W. $\frac{1}{4}$ W. 4 leagues from *Rose Blanche Point*, are the *Isles aux Morte*, or *Dead Islands*, which lie close under the shore; in the passage between them and the main is good anchorage for shipping in 6 or 8 fathoms, sheltered from all winds; but it is very dangerous of access to strangers, as there are several sunken rocks in both the east and west entrances.

Port aux Basque.—From the *Isles aux Morte* to *Port aux Basque*, the course and distance are W.N.W. about 4 miles; between lie several small islands close under the shore, and there are sunken rocks, some of which are half a mile from the shore. *Port aux Basque* is a small commodious harbour, which lies about $2\frac{1}{2}$ leagues to the eastward of *Cape Ray*. To fall in with it, bring the *Sugar Loaf* over *Cape Ray* to bear N.N.W. $\frac{1}{4}$ W., or the West end of the *Table Mountain* N.N.W. Steer in for

the land with either of these marks, and you will fall directly in with the harbour; the S.W. point, called Point Blanche, is of a moderate height, and white; but the N.E. point is low and flat, and has, close to it, a black rock above water. In order to avoid the outer shoal, on which are three fathoms, and which lies E.S.E. three-quarters of a mile from Point Blanche, keep the said point on board, and bring the flag-staff which is on the hill over the west side of the head of the harbour, on with the S.W. point of Road Island; that direction will lead you in the middle of the channel, between the east and west rocks, the former of which always show themselves, and which you leave on your starboard hand: continue this course up to Road Island, and keep the west point on board, in order to avoid the *Frying-pan Rock*, which stretches out from a cove on the west shore, opposite the island; and, so soon as you are above the island, haul to the E.N.E. and anchor between it and Harbour Island, where you please, in 9 or 10 fathoms, good ground, and sheltered from all winds: this is called the Road or Outer Harbour, and is the only anchoring-place for *men-of-war*, but small ships always lie up in the Inner Harbour. To sail into it, run in between the west shore and the S.W. end of Harbour Island, and anchor behind the said island in 3 or 4 fathoms. In some parts of this harbour ships can lay their broadside so near to the shore as to reach it with a plank. This place has been frequented by fishermen for many years.

NOTE.—“The *Lady Sherbrook*, Gambles, master, sailed from Londonderry, Ireland, in June, 1831, with upwards of 300 persons on board. After passing the Banks of Newfoundland, nothing but thick fogs were met with until July 19, when they cleared off about midnight, and breakers were seen ahead. The ship was immediately hove in stays, but it was of no use; for, on wearing round, she struck on Morte Island, near Port aux Basque.”

GRAND BAY lies about two miles to the westward of Port aux Basque; there are several small islands and rocks in and before it, the outermost of which are not above a quarter of a mile from the shore, on which the sea generally breaks: it is fit for small vessels only.

From Port aux Basque to Point Enragée, the bearing and distance are W.N.W. about a league, and thence to Cape Ray N.N.W. nearly $1\frac{1}{2}$ league. Off Point Enragée, which is low, and to the eastward of it, are some sunken rocks a mile from the shore, on which the sea breaks.

CAPE RAY is the S.W. extremity of Newfoundland, situated in lat. $47^{\circ} 37'$, and long. $59^{\circ} 18' 8''$: the land of the cape is very remarkable; near the shore it is low, but three miles inland is a very high Table Mountain, which rises almost perpendicular from the low land, and appears to be quite flat at the top, excepting a small hillock on the S.W. point of it. This land may be seen, in clear weather, from the distance of 16 or 18 leagues. Close to the foot of the Table Mountain, between it and the point of the cape, is a high round hill, resembling a sugar-loaf (called the *Sugar-Loaf of Cape Ray*), whose summit is a little lower than the Table Mountain; and to the northward of this hill, under the Table Mountain, are two other hills, resembling sugar-loaves, which are not so high as the former; one or other of these sugar-loaf hills is, from all points of view, seen detached from the Table Mountain.



Cape Anguille.

Cape Ray, on entering the Gulf.

There is a sandy bay between Cape Ray and Point Enragée, wherein ships may anchor with the winds from N.N.W. to East, but they must be cautious that they be

not surprised with the S.W. winds, which blow directly in, and cause a great sea. The ground is not the best for holding, being fine sand. Toward the east side of this bay is a small ledge of rocks, one mile from shore, on which the sea does not break in fine weather. The best place for large ships to anchor in is, to bring the point of the cape N.W., and the high white sand-hill in the bottom of the bay, N.E., in 10 fathoms of water. Small vessels may lie farther in. Be careful not to run so far to the eastward, as to bring the end of the Table Mountain on with the sand-hill in the bottom the bay, by which means the ledge of rocks before mentioned will be avoided.

N.W. $\frac{1}{2}$ W., nearly one mile from the point of the cape, is a small ledge of rocks whereon the sea always breaks; and, one mile to the northward of the cape, close under the land, is a low rocky island; there is a channel between the ledge and the cape, also between it and the island, with 14 or 15 fathoms of water; but the tides, which run here with great rapidity, render it unsafe to shipping.

The soundings under 100 fathoms do not extend above a league from the land to the southward and eastward of the cape, nor to the westward and northward of it, except on a bank which lies off Port aux Basque, between 2 and 3 leagues from the land, whereon are from 70 to 100 fathoms, good fishing ground. S.E. S. 8 leagues from Port aux Basque, in the latitude of $47^{\circ} 14'$, is a bank, whereon are 70 fathoms.

The Electric Telegraph wires which are carried around the heads of the bays and inlets of the south coast of Newfoundland from St. John's, is here carried across the channel from Cape Ray to Cape North of Cape Breton Island. In case of anchoring near the capes, great care must be used in keeping clear of the submarine cable, or either loss of anchor or injury to the telegraph may ensue.

The Tides.—Between Cape Chapeau Rouge and Cape Ray, in all the bays, &c., the tide generally flows till 9 o'clock, on full and change, and its perpendicular rise is about 7 or 8 feet on springs: but it must be observed, that the tides are everywhere greatly influenced by the winds and weather. On the coast, between Cape Chapeau Rouge and St. Pierre, the stream sets generally to the S.W. On the south side of Fortune Bay, it sets to the eastward, and on the north side to the westward. Between Cape La Hune and Cape Ray, the flood sets to the westward in the offing, very irregularly, but generally 2 or 3 hours after it is high water by the shore. The tide or current is inconsiderable, excepting near Cape Ray, where it is strong, and at times sets quite contrary to what might be expected from the common course of the tides, and much stronger at one time than at another; these irregularities seem to depend chiefly on the winds.—*See the Remarks on Currents, &c., pages 4 to 7.*

THE WESTERN COASTS OF NEWFOUNDLAND, FROM CAPE

RAY TO CAPE NORMAN.

From Cape Ray to Cape Anguille, the course and distance are N. by E. & E. nearly 8 leagues. Cape Anguille is the northernmost point of land you can see, after passing to the westward of Cape Ray; it is high table land, covered with wood, in the country over it. Between the high land of the two capes the land is low, and the shore forms a bay, wherein are the great and little Rivers of Cod Roy: the northernmost is the great river, which is a large harbour, formed by a long spit of sand across the mouth of the river. At low water most of it is dry, with the exception of the channel of the river, which has a depth of 10' or 12 feet. The shore may be approached between the two capes to half a league, there being no danger so far off.

NOTE.—“The fishery along the whole western and north-eastern coasts of Newfoundland, from Cape Ray round the north point, to Cape St. John, is claimed exclusively by the French: the words of the treaty admit of some dispute: but it is provided that, though the property of the land is vested in the British Crown, neither nation shall make permanent settlements, and the French shall have the right of drying fish on any part of the coast they choose. The provision for non-settlement is practically disregarded by both parties, as the English settle for their own advantage, and the French connive at, or encourage their doing so, on condition that they take care of their stores and fishing establishments. They also allow the English settlers to fish within the bays. There is, however, no law nor authority, nor means of establishing any, along this coast; every man depending on his own strength to protect himself. A man-of-war of both nations goes round once a year, to prevent great disturbances: but, to the honour of the settlers be it said, there are none to prevent.”—*Jukes' Excursions in Newfoundland*, vol. i. p. 120. This question, as stated in a previous page, has of late assumed a serious aspect, and a mixed commission of the two countries has been formed to deliberate on it (1800)."

The island of Cod Roy lies 1½ or 2 miles to the southward of Cape Anguille, close under the high land; it is a low, flat, green island, of nearly two miles in compass, in the form of a horse-shoe, forming, between it and the main, a small snug bar-harbour for vessels of 10 or 12 feet draught; the safest entrance to it is from the southward.

South-eastward from the island is *Cod Roy Road*, wherein in very good anchorage for shipping, in 8, 7, or 6 fathoms, on a clay bottom. With the south point of the island bearing about W.N.W., and the point of the beach on the inside of the island, at the south entrance into the harbour, on with a point on the main to the northward of the island, you will lie in 7 fathoms, and nearly half a mile from the shore: one league to the southward of Cod Roy Island is a high bluff point, called *Stormy Point*, off which a shoal stretches full half a mile; this point covers the road from the S.S.E. winds, and there is good anchorage all along the shore, between it and the island.

ST. GEORGE'S BAY.—From Cape Anguille to Cape St. George, the course and distance are N.E. & N. 11 leagues; these two capes form the Bay of St. George, which extends inward E.N.E. 18 leagues from the former, and E.S.E. 11 leagues from the latter. It is a fine bay, rapidly narrowing towards the head, with two straight shores, each of which affords good anchorage. The only harbour is just at the head, formed by the projection of a narrow spit of sand; and even that seems rapidly filling up with sand, as it is only near the entrance there is water enough for vessels, while the rest of the basin is nearly dry at low water, and is at no place deep enough for anything but a punt. On these low sandy shores, at the head of the bay, the tide,

though not great, becomes very apparent, rising and falling from 5 to 8 feet. The low spit of sand forming the harbour, is in some places covered with a stunted vegetation of fir trees. Just at the point, however, the are cleared away, and there is a collection of wooden houses scattered about, which contained a transitory population of 500 or 600.

On the north side of the bay, before the isthmus of *Port-au-Port*, is good anchorage in 7 or 8 fathoms, with northerly winds: from off this place a fishing-bank stretches two-thirds across the bay, with from 9 to 19 fathoms of water on it, dark sandy bottom.

CAPE ST. GEORGE lies in latitude $48^{\circ} 28' 54''$, long. $59^{\circ} 11' 14''$: it may be readily known, not only by its being the north point of the Bay of St. George, but also by the steep cliffs, of a light yellow limestone, on the north part of it, which rise perpendicularly from the sea to a considerable height, and by *Red Island*, which lies 5 miles to the northward of the cape, and half a mile from the shore: this island is about $1\frac{1}{2}$ mile in length, and of a middling height: the steep cliffs around it are of a reddish colour: there is anchorage with off-shore winds under the N.E. end of the island, before a sandy cove on the main, which lies just to the northward of the steep cliffs, in 12 or 14 fathoms.

From *Red Island* to *Long Point*, at the entrance into the Bay of *Port-au-Port*, the bearing and distance are E. $\frac{1}{2}$ N. 7 leagues: from *Red Island* to *Tweed Island*, in the mouth of the Bay of Islands, E. by N. $\frac{1}{2}$ N. 16 leagues: from *Red Island* to *Cape St. Gregory*, E.N.E. 20 leagues: and from *Red Island* to *Point Rich*, which is the north point of *Ingornacholx Bay*, N.E. by E. 49 leagues.

PORT-AU-PORT.—The land between *Red Island* and the entrance into *Port-au-Port* is rather low, with sandy beaches, except one remarkable high hillock, called *Round Head*, close to the shore, about 3 leagues to the E.N.E. of *Red Island*: but, up in the country, over *Port-au-Port*, are high lands; and, if you are 3 or 4 leagues off at sea, you cannot discern the *Long Point* of land which forms the bay, and which is covered with wood; this bay is capacious, being above 5 miles broad at the entrance, and 4 leagues deep, lying in to the south and south-west, with good anchorage in most parts of it.

Long Point is the west point of the bay; it is low and rocky, and a ledge of rocks extends from it E.N.E. nearly a mile. S.E. by E. $\frac{1}{2}$ E. 4 miles from *Long Point*, and half a league from the east shore, lies *Fox Island*, which is small, but of middling height; from the north end of this a shoal stretches nearly 2 miles to N.N.E., called *Fox Tail*; and, nearly in the middle of the bay, between *Fox Island* and the west shore, lies the *Middle Ground*, on one place of which, near the S.W. end, there are not above 3 or 4 feet of water. From the head of the bay, projecting out into the middle of it, is a low point, called *Middle Point*, off which, extending 2 miles N.E. by N., is a shoal spit, part of which dries at low water: this middle point divides the bay into two parts, called *East* and *West Bays*. From the head of the *East Bay*, over to the Bay of St. George, the distance is a large quarter of a mile: this isthmus is very low, and on the east side of it is a tolerably high mountain, rising directly from the isthmus, and flat at top: on the north side of this, and about 5 miles from the isthmus, is a conspicuous valley, or hollow, hereafter to be used as a mark. N.E. by E. $\frac{1}{2}$ E. above two leagues from *Long Point*, and half a league from the shore, lies *Shag Island*, which appears at a distance like a high rock, and is easily to be distinguished from the main; and W.N.W. about a league from it, lies the middle of *Long Ledge*, which is a narrow ledge of rocks stretching E.N.E. and W.S.W. about 4 miles; the eastern part of them is above water, and the channel into the bay of *Port-au-Port*, between the west end of this ledge and the reef which stretches off from the west point of the bay, is a league wide.

In sailing in, if coming from the S.W., advance no nearer to the *Long Point* of the bay than 14 mile, until you have brought the valley on the side of the mountain before mentioned (on the east side of the isthmus), over the east end of *Fox Island*, or to the eastward of it, which will then bear south, a little easterly; you will then be clear of the *Long Point Reef*, and may haul into the bay with safety; but, if coming from the N.E. without the *Long Ledge*, or turning into the bay, in order to keep

clear of the S.W. end of Long Ledge, bring the isthmus, or the foot of the mountain (which is on the east side of the isthmus), open to the westward of Fox Island, nearly twice the breadth of the island, and it will lead you into the bay clear of Long Ledge; and when Shag Island is brought on with the foot of the high land on the south side of Coal River, bearing then E. $\frac{1}{2}$ S. you will be within the Long Ledge; there is also a safe passage into the bay, between the Long Ledge and the main, on either side of Shag Island, taking care to avoid a small shoal, of 2 $\frac{1}{2}$ fathoms, which lies W. by N. one mile from the island.

To sail up into the West Bay and Head Harbour, keep the western shore on board: this shore is bold-to. In turning between it and the Middle Ground, stand no nearer to the Middle than into 8 fathoms: but you may stand to the spit of the Middle Point into 6 or 5 fathoms. The anchorage in West Bay is in about 8 fathoms, and in Head Harbour, in about 5 fathoms. The West Road lies before a high stone beach, about 2 miles southward from Long Point, where you may lie very secure from the westerly and N.W. winds, in 10 or 12 fathoms of water.

The East Road lies between Fox Island and the east shore: to sail up to it, you should keep the high bluff head, which is about a league to the E.N.E. of the island, bearing to the southward of S.E. by E. $\frac{1}{2}$ E. until the isthmus is brought to the eastward of Fox Island; you will then be within the shoal called Fox's Tail, and may haul to the southward, and anchor anywhere between the island and the main, in from 18 fathoms.

To sail up the East Bay, pass between the island and the east shore, and after you are above the island, come no nearer to the main than half a mile, until you are abreast of a bluff point above the island, called Road Point, just above which is the best anchorage with N.E. winds, in about 12 fathoms of water; and to sail up the East Bay, between the Middle Ground and the Fox Tail, bring the said bluff point on with the S.W. point of Fox Island; this mark will lead you up, in the fair way between the two shoals; give the island a berth, and anchor as before, in from 8 to 12 fathoms of water.

BAY OF ISLANDS.—From the Long Point at the entrance of Port-au-Port to the Bay of Islands, the bearing and distance are N.E. by E. 8 leagues. Be careful to avoid the Long Ledge: the land between is of considerable height, rising in craggy barren hills, directly from the shore. The Bay of Islands may be known by the many islands in the mouth of it, particularly the three named Guernsey Island, Tweed Island, and Pearl Island, which are nearly of equal height with the land on the main. If you are bound for Lark or York Harbours, which lie on the S.W. side of the bay, and are coming from the southward, run in between Guernsey Island and the South Head, both of which are bold-to; but with southerly and S.W. winds approach not too near the South Head, lest calms and sudden gusts of winds should proceed from the high land, under which you cannot anchor with safety. There are several channels formed by the different islands, through which you may sail in or out of the bay, there being no danger but what shows itself, excepting a small ledge of rocks, which lie half a mile north-eastward from the north Shag Rock; and in a line with the two Shag Rocks in one. The safest passage into this bay from the northward, is between the two Shag Rocks, and then between Tweed Island and Pearl Island.

From Guernsey Island to Tortoise Head, which is the north point of York Harbour, and the S.E. point of Lark Harbour, the course and distance are S. by W. $\frac{1}{2}$ W. 5 miles; Lark Harbour extends inwaed W.S.W. nearly 2 miles, and is one-third of a mile broad in the entrance, which is the narrowest part: in sailing into it with a large ship, keep the port shore on board, and anchor with a low point on the starboard side, bearing W.N.W., N.N.W., or N.N.E., and you will ride securely from all winds.

From Tortoise Head into York Harbour, the course and distance are W.S.W. nearly a league; there is good turning room between the Head and Governor's Island, which lies before the harbour; but you must be cautious to avoid a shoal which spits off from a low beach point on the west end of Governor's Island, called

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Sword Point; there is also a shoal which spits off from the next point of Governor's Island, which must be avoided: Tortoise Head just touching *Sword Point* will lead clear of it; in sailing in, give *Sword Point* a berth, passing which, the best anchoring ground is in 10 fathoms, along the sandy beach on the main, with Tortoise Head open of *Sword Point*: westerly and S.W. winds blow here with great violence.

Harbour Island lies at the entrance of Humber Sound, and S. by E. $\frac{1}{4}$ E. 7 miles from Guernsey Island; at its S.W. point is Wood's Harbour, which is unfit for shipping. Humber Sound is about 17 miles long, and the shores are rocky and wooded, and has some few settlers: at the head of it, at the mouth of the river, is only 8 feet water, muddy bottom. The river Humber is so rapid in some places, for about 4 leagues up, to a lake, that it is with great difficulty that even a boat can be gotten up against it. The banks of this river are well clothed with timber.

The *North and South Arms* are long inlets, with very deep water up to their heads. On the east side of *Eagle Island*, between the north and south arms, is anchorage in 8, 10, or 12 fathoms of water. Under the north side of *Harbour Island*, is good anchorage with S.W. winds; and opposite to the S.E. end of *Harbour Island*, on the south side of the bay, is Frenchman's Cove, wherein is good anchorage in from 20 to 12 fathoms.

From Guernsey Island to *Bonne Bay* the course is N.E. $\frac{1}{4}$ E. 5 leagues to Cape St. Gregory, and thence E.N.E. $\frac{1}{4}$ E. 5 leagues to the entrance of *Bonne Bay*. The land near the shore from the north Shag Rock to Cape St. Gregory is low, along which lie sunken rocks, a quarter of a mile from the shore; but a very little way inland it rises into a mountain, terminating at top in round hills.

CAPE ST. GREGORY is high; and between it and *Bonne Bay* the land rises directly from the sea-shore to a considerable height.

BONNE BAY may be known, at the distance of 4 or 5 leagues, by the land about it; all that on the S.W. side of the bay being very high and hilly, and that on the N.E. side, and thence along the sea-coast to the northward, being low and flat; but, at about one league inland, is a range of mountains, which run parallel with the sea-coast. Over the south side of the bay is a very high mountain, terminating at top in a remarkable round hill. This bay extends inward E.S.E. nearly 2 leagues, then branches into two arms, one of which runs into the southward, and the other to the eastward: the southern arm affords the best anchorage; small vessels must anchor just above a low woody point at the entrance into this arm, on the starboard side, before a sandy beach, in 8 or 10 fathoms of water, about a cable's length from the shore; there is no other anchorage in less than 30 or 40 fathoms, excepting at the head of the arm, where there are from 25 to 20 fathoms of water. In sailing into the *East Arm*, keep the starboard shore on board; and, short round a point at the entrance, will be found a small cove, with good anchorage in 17 or 20 fathoms, but you must moor to the shore. There is a snug cove also within the North Point, with anchorage in 6 or 7 fathoms of water. In sailing in or out of *Bonne Bay*, with S.W. winds, come not near the weather shore, lest you should happen to be becalmed, or should meet with heavy gusts of wind, as the depth of water is too great to admit of your anchoring.

Ten miles to the northward of *Bonne Bay* is *Martin Point*, pretty high and white, off which, about three-quarters of a mile, is a small ledge of rocks, whereon the sea breaks. *Broom Point* is low and white, and lies about a league to the northward of *Martin Point*; about half a mile W.S.W. from it, lies a sunken rock that seldom shows itself: on the north side of *Broom Point* lies the Bay of St. Paul, wherein vessels may anchor with off-shore winds, but it is quite exposed to the sea-winds.

COW HEAD lies about one league to the northward of the Bay of St. Paul: this is a promontory, which has the appearance of an island, it being joined to the main only by a very low and narrow neck of land: about three-quarters of a mile off this head lies *Steering Island*, which is low and rocky, and is the only island on the coast between the Bay of Islands and Point Rich. It is considered as one of the best

stations on the coast for the fishery, and the environs are very fertile and productive. *Cow Cove* lies on the south side of Cow Head, and ships may lie there in from 7 to 10 fathoms, sheltered from northerly and easterly winds. *Shallow Bay* lies on the north side of Cow Head, and has water sufficient for small vessels; at the N.E. side of the entrance is a cluster of rocky islands, extending E.N.E. and W.S.W., and at the S.W. side are two sunken rocks close to each other, which generally show themselves; they lie a cable's length from the shore, and there is a channel into the bay on either side of them. *Steering Island* lies right before this bay, which you may pass on either side, but come not too near its N.E. end, as there are some sunken rocks extending from it.

INGORNACHOIX BAY.—From Cow Head to Point Rich is 17½ leagues in an E.N.E. ¼ E. [N.E.] direction. Point Rich is the northern point of the Bay of Ingornachois. From Shallow Bay to the southern point of Ingornachois Bay the coast is nearly in a straight line, there being all the way neither creek nor cove, where a vessel can find shelter from the sea winds, although there are a few places where they might anchor occasionally with land winds. About 6 leagues from Steering Island there is a hill, standing half a mile inland, which is commonly called *Portland Hill*, probably because it resembles Portland Bill in the English Channel, and alters not its appearance in whatever point of view it is taken.

Port Saunders and Hawkes Harbour are situated within, and to the eastward of Ingornachois Bay; at the entrance lies *Keppel Island*, which, at a distance, will not easily be distinguished from the main land; there is a passage on both sides of the island.

To sail into PORT SAUNDERS there is no impediment or danger; you will leave *Keppel Island* on your starboard side, and when you get about half a mile within the entrance, you can anchor in 12 or 14 fathoms water; but if you are intending to run up to the head of the harbour, you must keep the larboard shore on board, in order to avoid the rocks which lie near the mid-channel; this is considered to be the best harbour that are bound to the southward.

HAWKES HARBOUR.—To enter this harbour, vessels commonly go to the southward of *Keppel Island*. The larboard shore is shoal, and has a sand-bank, which stretches along the land, and cuts out two-thirds of the passage over, great part of which dries at low water; your course in will be E.S.E., keeping nearer to *Keppel Island* than to the main, until the eastern end of the island, which is a low stony beach, bears N.E. by N. or N.N.E.; then steer S.S.E. ¼ E. for a small island you will see, situated further up the harbour; keeping the port shore well on board, run direct for this island, and when you have brought the point at the south entrance of the harbour to bear N.N.E. ¼ N., and are at the S.S.E. point of a bay on the starboard side of the harbour, you will then be beyond the shoal ground, and may anchor in 12 fathoms water; or else run within half a mile of the small island, and anchor there, which will be more convenient for both wood and water. This is the best harbour for ships bound to the northward. The land round about these harbours is generally low, and covered with wood: you may occasionally anchor outside, in the Bay of Ingornachois, according as you find the prevailing winds.

Point Rich is in latitude 50° 41' 47" N., and longitude 57° 24' 23" W.; it is the south-western point of a peninsula, which is almost surrounded by the sea, being everywhere of moderate height, and projecting further to seaward than any other land on this side of Newfoundland, the coast from thence, each way, taking an inward direction.

PORT AU CHOIX.—Rounding Point Rich, on its northern side, you will meet with Port au Choix, small, but yet capable of admitting a ship of burthen, mooring head and stern; to sail in you should keep the starboard shore on board, and anchor just above a small island lying in the middle of the harbour. In this place, and also in Boat Cove, which lies a little to the north-eastward, there are several stages and places for drying fish.

OLD PORT AU CHOIX lies to the eastward of Boat Cove; it is a small but safe harbour, having at its entrance an island called *Harbour Island*, and on its western

side some rocks, both above and under water; there is also another island lying E.N.E. $\frac{1}{2}$ N., distant nearly a mile from Harbour Island, about which are several rocks, some of which stretch out towards Harbour Island, and render the passage very narrow between them. To sail into Old Port au Choix, on the western side of Harbour Island, you must keep the island close on board; but to go in on the eastern side of the island, give the north-eastern point of the island a berth, and having entered, you may anchor anywhere on the port side of the harbour, only avoiding the starboard side, for a shoal of sand and mud runs all along it.

BAY OF ST. JOHN.—This is an open and extensive bay, bounded by Point Rich to the southward, and Point Ferolle to the northward, having several islands within it, and some sunken rocks; the largest of these islands is *St. John's*, about $2\frac{1}{2}$ miles in length, and $1\frac{1}{2}$ broad: this lies E.N.E. distant $8\frac{1}{2}$ miles from Point Rich; on its south-western side is a small harbour, well calculated for the cod fishery, but too much exposed for shipping, as south-westerly winds commonly drive in a heavy sea. On the south-eastern, or inner side of the island, and between it and *One Head Island*, vessels may lie much more secure, in 14 or 16 fathoms water, and sheltered from most high winds; and this is considered to be the only safe anchorage in the whole bay. West from *St. John's Island* one large mile, is *Flat Island*, having a rock above water at its southern end; the channel between *St. John's* and *Flat Island* has from 13 to 25 fathoms in it, and they are both bold-to: the *Twin Islands* lie N.E. by N. from *Flat Island*, distant one league, and have no danger about them. To the westward of the *Twins* are several scattered rocks above water, named the *Bay Islands*: they have deep water around them, but no anchorage. The land at the bottom of the bay is very high, and there is the little river of *Castors*, the entrance to which is dangerous and shallow, therefore seldom frequented. From the northern point of this bay a rocky shoal extends all the way to Point Ferolle, stretching out $2\frac{1}{2}$ miles from the shore.

POINT FEROLLE lies N.E. by E. from Point Rich, distant 22 miles; it is of moderate height, and joined to the main by a neck of land, which divides the *Bay of St. John's* from *New Ferolle Bay*, making it appear like an island when seen from a distance; its northern shore is bold-to, and this part of the coast will easily be known by the adjacent table land of *St. John's*, the west end of which mountain lies from the middle of Ferolle Point S. by W., and its eastern end S.E. $\frac{1}{2}$ S.

New Ferolle Bay is a small cove lying to the eastward of the point, and is quite flat all over, there being not more than 2 and 3 fathoms at any part; it is quite open to the northerly winds, has a stage on each side of it, with plenty of room for others.

St. Margaret's Bay is large, and has several islands within it, also various inlets or coves, affording good anchorage, particularly on its western side, which is the best situation for ships, being most clear of danger, and convenient for wooding and watering; on its banks are spruce and fir trees in plenty, and many rivulets of fresh water. *Dog Island* is to the eastward of Point Ferolle full three miles, and only divided from the main at high water; it is higher than any land near it, which gives it the appearance, when seen from the eastward, of an island situated at some distance from the main.

Old Ferolle.—To the eastward of *Dog Island* about 5 miles is *Ferolle Island*. This island lies parallel to the shore, and forms the harbour of Old Ferolle, which is very good and safe: the best entrance to it is at the S.W. end of the island, passing to the southward of a small island in the entrance, which is bold-to: as soon as you are within it, haul up E.N.E. and anchor under the S.W. end of *Ferolle Island*, in 8 or 9 fathoms, good ground, quite land-locked. There is also good anchorage anywhere along the inside of the island, and a good channel up to the N.E. end thereof. There are some little islands lying at the N.E. end of *Ferolle Island*, and on the outside are some ledges of rocks a small distance off.

Bay of St. Genevieve.—From the north end of *Ferolle Island* to *St. Genevieve Head* the course is E.N.E. $\frac{1}{2}$ miles, and thence to the west end of *Currant Island* it is north-eastward about three miles. There are several small islands lying in and



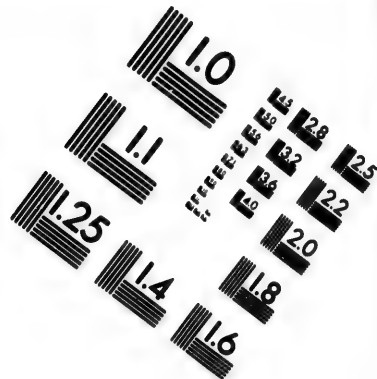
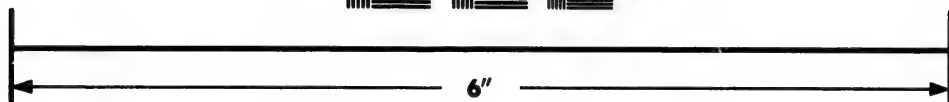
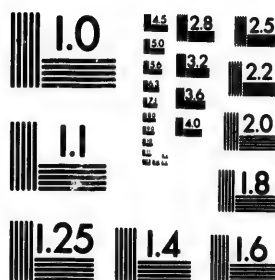


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before this bay, only two of which are of any considerable extent. Currant Island is the northernmost of the two, and the largest; it is of a moderate height, and when you are to the E.N.E. of it, the western point will appear bluff, but not high; and when you are to the westward of it, it appears flat and white. The other, called *Gooseberry Island*, lies nearly a mile to the southward of it, and its west point bears from the west point of Currant Island S.S.W. $\frac{1}{2}$ W. nearly a mile; Gooseberry Island has a cross on its S.W. end, from which point stretches out a ledge of rocks, nearly half a mile to the southward; there is also a shoal about half a mile to the W.S.W. from the S.W. point of Currant Island. The best channel into this bay is to the southward of these islands, between the rocks which stretch off them and a small island lying S.S.W. from them (which island lies near the south shore, in this channel, which is very narrow, there are not less than 5 fathoms at low water, and the course is in E. by S. southerly, until you come the length of the afore-mentioned island, passing which you should haul to the southward, and bring St. Genevieve Head between the small island and the main, in order to avoid the middle bank. You may either anchor behind the small island in 5 or 6 fathoms water, or proceed farther, with the said mark on it, until the S.W. arm is open, and anchor in the middle of the bay, in 7 or 8 fathoms water. Here are wood and water to be had. There is tolerably good anchoring in most parts of the bay; but the safest place is the S.W. arm; the entrance to it is narrow, and has only 4 fathoms at low water. In coming into the bay, if you get out of the channel on either side, you will shoalen your water immediately to 3 or 2 fathoms.

Bay of St. Barbe.—From the west end of Currant Island to *St. Barbe Point* it is E. by N. $2\frac{1}{2}$ miles, and from *St. Barbe Point* to *Anchor Point*, it is N.N.E. nearly $1\frac{1}{2}$ mile. Between them lies the Bay of St. Barbe; it runs in S. by E. about 2 miles from Anchor Point. To sail in, give Anchor Point, and all the east side of the bay, a good berth, to avoid the sunken rocks which lie along that shore: you must be well in before you can discover the entrance into the harbour, which is but narrow; then steer south, keeping in the middle of the channel, and anchor as soon as you are within the two points, in a small cove, on the west side, in 5 fathoms water, on sand and mud, quite land-locked. Near this place branch out two arms or rivers, one called the South, and the other the East River; the latter has 3 fathoms a good way up, but the former is shoal. Between the S.W. point of the bay and west point of the harbour is a cove, wherein are sunken rocks, which lie a little without the line of the two points: in the open bay are 7, 8, or 9 fathoms; but the N.W. winds cause a heavy sea to fall in here, which renders it unsafe.

From Anchor Point to the extremity of the *Seal Islands*, the course is N.E. $\frac{1}{2}$ E. one league; off Anchor Point a ledge stretches itself W. by S. about one-third of a mile; there are no other dangers between it and the Seal Islands but what lie very near the shore.

The *Seal Islands* are white and rocky, and must not be approached but with care on their northern and western sides, because there are some sunken rocks near them.

From the N.W. Seal Island to the N.W. extremity of *Flower Ledge*, it is N.N.E. nearly two miles; part of this ledge appears at low water, and there are 10 fathoms close on its off-side.

MISTAKEN COVE.—From the north part of *Flower Ledge* to *Grenville Ledge* it is about $1\frac{1}{2}$ mile E. by S., and Grenville Ledge lies about two-thirds of a mile W. by N. from the eastern point of Mistaken Cove, between which and Seal Islands lie also *Nameless Cove* and *Flower Cove*, neither of which is fit for ships.

SAVAGE COVE.—Close to the eastward of Mistaken Cove is Savage Cove, which has a little island in its entrance and is only fit for small vessels and boats.

Sandy Bay lies two miles eastward from Savage Cove, where small vessels may ride in 3 or 4 fathoms water, with the winds from E. or S.W.

About E.N.E. 5 large miles from Sandy Bay is *Green Island*, between them, at three miles distance, W. $\frac{1}{2}$ S. from Green Island, is the north extremity of *Double*

Ledge, which extends nearly two-thirds of a mile from the shore, and has only 8 or 9 feet water on it.

Green Island lies about three-fourths of a mile from the main, is two-thirds of a mile in length, very low and narrow, and agreeable in colour to the name it bears: from the east end of a ledge of rocks extends three-fourths of a mile to the eastward, on which the sea breaks in bad weather. There are 4 or 5 fathoms water in the channel between the island and the main, where ships may anchor if necessary. To go in from the westward, keep the island close on board for the deepest water, which is 4 fathoms; and going in from the eastward, keep the main on board.

Between *Green Island* and *Ferolle*, there are some dangerous ledges, which render it desirable to avoid this side of the Strait of Belle Isle at night or in thick weather: the opposite side is much more free from danger, and has several good roadsteads.

From *Green Island* to *Boat's Head* it is E. $\frac{1}{2}$ S. 8 leagues; between there is no shelter on the coast, but to the south-eastward of *Boat's Head* is a cove, called *Boat Harbour*, where small vessels and boats may lie very secure, except with N.E. winds.

From *Green Island* to CAPE NORMAN the direction is E. $\frac{1}{2}$ S. [N.E. by E. $\frac{1}{2}$ E.] 29 miles. The coast between them is straight and low, consisting of limestone, partially wooded with spruce trees.

II.—THE STRAIT OF BELLE ISLE AND THE COAST OF LABRADOR BETWEEN CAPE ST. LEWIS AND FORTEAU POINT.

GENERAL REMARKS.—The Strait of Belle Isle divides Newfoundland from the American continent, and is about 60 miles long. The eastern entrance, between Cape Bauld and Fork Point, is about 26 miles wide; the western, about 18 miles. The narrowest part, between Point Amour and Newfoundland, is $9\frac{1}{2}$ miles. The depth of water in the Strait is usually greatest on the north side; it varies between 70 and 20 fathoms, but is very irregular; the quality of the bottom is equally various, so as to afford little assistance to a vessel passing through in foggy weather.

It is, however, the channel, preferred by the Canadian mail steamers in the summer months, as it affords the shortest passage across the Atlantic, and its difficulties are much diminished for night navigation by the lights established on Belle Isle and Amour Point.

Winds from the south and east invariably bring the fogs which are so prevalent here, and which are also frequently brought with winds from the south-west; clear weather is only certain in north and west winds. The climate here is very severe, much more so than the coasts more to the north, the mean temperature of the year being below the freezing point.

A branch of the current which passes southward, through Davis Straits down the coast of Labrador, enters the Strait of Belle Isle, bringing with it the numerous icebergs with which the strait frequently abounds, and which are carried into the Gulf of St. Lawrence, sometimes as far as Anticosti. The strength of this current is very much increased by a prevalence of N.E. winds, after which it sometimes runs, at a rate of 2 miles per hour, through the strait, and spreading outward into the gulf, gradually diminishes in force after a course of 30 or 40 miles, while at other times it is inappreciable. The prevailing current comes along the Labrador shore, between it and Belle Isle, and is very often at a freezing temperature; as before said, it is sometimes as strong as 2 knots per hour, but it is usually much weaker, and sometimes, with a prevalence of S.W. winds, entirely ceases, and a current is even known to run in a contrary direction, to the N.E. This N.E. stream sets along the Newfoundland shore; and at times, while the current from the Atlantic is running westerly along the north side of the strait, there is a stream of the warmer water of the gulf passing along the southern shore; and at others, this southern current runs obliquely across the western entrance of the gulf.

There is usually a regular alternation of flood and ebb near the shores, in fine weather, but it is not constant. The flood comes from the northward.

The navigation of the strait, it is evident, from all these causes, is difficult, and should not be attempted at night, or during foggy weather; for a vessel cannot, under these circumstances, be sure of its position or course; therefore, to avoid the drifting icebergs, which are frequently aground, and generally exist in large numbers in the strait, as well as other dangers, it would be better to come to some anchorage. During calms or light winds, as well as in foggy weather, or the night, it would be better to anchor in one of the bays on the north side, than drift about; if this be not practicable, it would be advisable to bring-to with a stream anchor, keeping a look-out for icebergs. In entering the strait from the eastward, with a leading wind, and being obliged to seek anchorage, the first secure place that can be put into on the north side, is Black Bay. Red Bay cannot be entered with an easterly wind. But in proceeding to the east, and not within the western entrance, it would be better to stand off and under easy sail, on the Newfoundland shore, till morning, sounding occasionally, or else make for Forteau Bay.

BELLE ISLE, which gives its name to the strait, lies at the eastern entrance of the strait; it lies 12½ miles N.E. & N. [N. & E.] from Cape Bauld, in Newfoundland, and 19 miles from York Point, on the coast of Labrador, in a S.E. & S. [E. by S. & S.] direction. It is composed of a range of hills of a moderate height, and a very barren appearance, and is much frequented by American and English fishermen. It is about 9½ miles long and 3 wide. It is steep from the water's edge all round, except on the N.E. end of it, where there is a small cove, *Black John Cove*, between two points, where very small vessels may find shelter. *Lark Cove*, or harbour, near the middle of the north side, is the only other shelter; it is formed by *Lark Island*, but it can only be used by fishing boats. These are the only safe anchorages, and the coast is clear all around it.

Lighthouse.—On the S.W. point is a brick tower 62 feet high, which shows, during the season, from April 1st to December 15th, a fixed bright light at 470 feet, visible in clear weather 28 miles off. From being so high, it is often obscured by land fog.

ST. LEWIS SOUND is about 4 miles wide at the entrance between Cape St. Lewis and *North Battle Island*; the bearing between them is S.W. & W. CAPA St. Lewis is in lat. 52° 21' 16" N. and long. 55° 38' 28" W. It lies N. & E. about 28 miles from the N.E. end of Belle Isle, and is about 600 feet high. To the east is *St. Lewis Rock*, close to the shore.

St. Lewis Sound is about 8 miles deep, and the south side is formed by several islands. The shores are bold, and the water everywhere very deep, often exceeding 60 or 60 fathoms. In the fall of the year, a heavy ground swell, called the *undertow*, sometimes rolls in from the east into St. Lewis Sound, through the islands, as far as the entrance of the inlet. It comes in tremendous waves, often without wind, bursting over islets 30 feet high, and proceeds with irresistible force against the sides of the precipices. It is, however, not so dangerous as the short breaking sea of the gulf, and it discovers shoals, as everything with less than 4 fathoms on it is sure to break.

Deer Harbour is 1½ miles N.W. of the south point of Cape St. Lewis, extending nearly a mile E.N.E., and is a perfectly secure anchorage is from 5 to 8 fathoms. Its east point is low, with several fishermen's houses on it, and a small rock close off it, to the north, which must be left about 50 fathoms on the starboard, to avoid a shoal, partly above water, off the S.W. of the point, which forms the north side of the entrance. Water may be procured, but wood is extremely scarce. The principal entrance to *Deer Harbour* is 5 miles N.W. of Cape St. Lewis; the sides are bold, and the depth of the entrance is from 12 to 31 fathoms; the harbour is formed by *Marnham Island*, and is perfectly land-locked, and there is room for any vessel to beat in or out; the depth in it from 16 to 25 fathoms. *Open Bay* is immediately to the S.W. of the entrance of *Deer Harbour*; there is good anchorage near its head, but it exposed to the S.E.

The *Battle Islands* from the south point of St. Lewis Sound, and the south-east island is the extremity, both south-west and north-east, of the coast of Labrador. The *Reef* is about half a mile apart, and bear north and south from each other; the north reef bears east $1\frac{1}{2}$ mile from North Battle Island; the sea always breaks on them, and vessels out to pass outside them. West of these is Great Caribou Island, which is 9 miles in circumference; its south-east side is broken to coves open to seaward, and there are several islets and rocks along it, and one sunken, the *Foam Rock*, which is the only danger between Battle Islands and the Great Caribou. Battle Harbour is between the Battle Islands and the east end of Great Caribou. It is only fit for small vessels, the entrance being about 30 fathoms wide, 70 or 80 fathoms wide within, and half a mile long. It is generally crowded with the vessels and boats of the fishermen, which moor to the rocks on either side, and the shores are covered with their houses and stages.

CAPE ST. CHARLES may be easily recognised by St. Charles Hill, which is round, and 654 feet above the sea, and is the highest land on this part of the coast. St. Charles Harbour is on the east side of the Cape, and is formed by three islands; the depth in it is from 5 to 12 fathoms.

Niger Sound.—The entrance is between Cape St. Charles and the *Camp Islands*, the S.E. extreme of the latter bearing S.W. $\frac{1}{2}$ W. $3\frac{1}{2}$ miles from the S.E. extreme of Fishlake Island. *Niger Island* lies $2\frac{1}{2}$ miles within this entrance, nearer the north than the south side of the Sound. There is good anchorage in *Horn Bay*, at the head of the Sound; and an *Islet Bay*, north of *Niger Island*.

CAMP ISLANDS.—The Inner *Camp Island* about 300 feet high, and three-quarters of a mile diameter, lies off the S.W. point of *Niger Sound*, leaving a boat-channel between. The *Outer Camp Islands* $1\frac{1}{2}$ mile long, and three-quarters of a mile broad, are not quite so high, and are also of pure granite; they are separated from the former by a clear channel. There is a small cove on their west side, 200 fathoms wide, where small fishing vessels moor to the rocks; but the shelter is very indifferent in S.W. winds.

Table Head is a remarkable isolated mass of basaltic columns upon sandstone, flat at top, and precipitous all round. It lies S.W. by W. $\frac{1}{2}$ W. 5 miles from *Camp Islands*.

St. Peter Bay is open to the S.E., but the force of the sea is broken by the islets and reefs. It lies within the *St. Peter Islands*, which are small and low, with many rocks above and under water; the easternmost of them lies S.W. by W. 6 miles from the camp Islands. St. Peter Bay is 2 miles deep, in a N.N.W. direction, and there is anchorage three-quarters of a mile from its head, in 13 to 20 fathoms. The entrance between Point Peter and the innermost islet is three-quarters of a mile wide, and 6 or 7 fathoms deep: it has a 2-fathom shoal in it to the west of the islet, and a reef off Point Peter, the passage between them being about 400 fathoms wide, and must be approached from the south, passing to the West of all the St. Peter Islands, not less than one-quarter of a mile. The anchorage in this bay is but indifferent, and wood and water can be procured.

Castle Island, lies W. $\frac{1}{2}$ S. $6\frac{1}{2}$ miles from the S.W. St. Peter Island, and about midway between them are *Sandwich Head and Cove*, the latter only useful to boats. Off the east end of *Castle Island*, at the distance of 150 fathoms, is a 3-fathoms ledge. Between *Sandwich Head* and *Castle Island* is *Bud Bay*, which is rocky and dangerous, and affords no shelter.

CHATEAU BAY is easily recognised from the offing, by its position with reference to the remarkable *Table Head* and the *St. Peter Islands*, by the high land in the rear of it, and by there being a straight, unbroken coast free from islands to the west of it; and also by the two hills on *Castle* and *Henley Islands*, which are perpendicular and flat-topped, and 200 feet high. This bay has within it, *Henley*, *Antelope*, and *Pitt's Harbours*. The principle entrance to *Chateau Bay* is between *Chateau* and *Pitt's Points*, the latter bearing from the former W.N.W. $\frac{1}{2}$ W. $1\frac{1}{2}$ mile.

Temple Bay runs $4\frac{1}{2}$ miles in a N. by W. direction, deep water, and no good anchorage. The mouth of the is closed by *Whale Island*, at the head of *Chateau*.

Temple Bay is on the south of Whale Island; it is only 80 fathoms wide, and 4 fathoms deep, and bears 1½ mile N.N.E. ½ E. from York Point. On the north side of Whale Island, is a passage into the bay called *Whale Gut*, the navigable channel of which is 100 yards wide and 4 fathoms deep.

Antelope Harbour is on the east side of the bay, to the north of Henley Island, and between it and *Barrier Point*, which, with its reef, separates it from *Pitt's Harbour* to the northward. The passage leading into both these harbours is between *Stage* and *Henley Islands* to the eastward, and *Whale* and *Flat Islands* to the westward. There are three dangerous ledges which must be avoided in coming into this harbour; the outermost, with 2 fathoms, lies in the line from the extremity of *Chateau Point* and the eastern extreme of *Whale Island*, and the south extreme of *Seal Islands*, seen through the narrow channel between *Castle* and *Henley Islands*, bearing E. ½ N.; the second with 3 fathoms least water, in the line, 160 fathoms from the east side of *Flat Island*, and the third with only 9 feet water, between the eastern extreme of *Whale Island* and *Black Point*, the N.W. point of *Henley Island*.

Pitt's Harbour is superior to *Antelope Harbour*; it is a mile long, and three-quarters of a mile wide, and has a depth of 4 fathoms close to the shores, deepening to 18 fathoms in the centre. You may anchor in any part, as it is perfectly sheltered. Water and wood are plentiful. To enter these harbours, and being between *Chateau* and *York Points*, bring *Grenville Point* on the north side of *Antelope Harbour* and *Black Point*, both of steep, black rock, in one, bearing N.N.E. ½ E., and run in on this course, which leaves the first ledge to the right, till you arrive between *Flat* and *Stage Islands*, leaving the second ledge on the left; bear a little to the north, but to clear to westward of the *Black Rock*, off *Black Point*, and then round it to eastward and enter *Antelope Harbour*. To enter *Pitt's Harbour*, as soon as the *Black Rock* bears east, change course to N.W. by N., and run on till the east end of *Whale Island* and the western extreme of *Chateau Point* on *Castle Island* are in one, bearing S. ½ W.; then proceed N. ½ E., and enter the harbour, which course will clear the shoal water off *Pitt's Point*.

YORK POINT is quite bold, and so is *Chateau Point*, to the west, but has shoal water 60 fathoms off it, to the S.E. It may be considered as the north point of the east entrance of the Strait of *Belle Isle*; to the N.W. of it is a high ridge, called the *High Beacon*, 959 feet above the sea.

The coast runs westward, straight and bold to *Wreck Bay*, which is W. ½ S. 10½ miles from *York Point*. It affords no shelter. Two miles and a half S.W. of its east point is a rocky patch, with 5 fathoms. *Barge Bay* is W. ½ S. 16½ miles from *York Point*, and affords no anchorage. *Greenish Bay* is about 5½ miles W by N. from *Barge Bay*, and is open to the S.E.; the holding-ground is not good, but it is sometimes used by small vessels. Between this and *Red Bay* is the *Sunk Ledge*; the rocks are a wash, bearing S.E. ½ S., half a mile from *Twin Island*, close to the east point of *Red Bay*.

RED BAY is a beautiful little harbour, perfectly sheltered from every wind. It is formed by *Saddle Island*, lying off the entrance of a bay; it has a hill at each end, about 100 feet high. To the west of this is *West Bay*, exposed to easterly winds, but with tolerable anchorage in 10 or 12 fathoms in westerly winds. The outer harbour of *Red Bay* is between *Saddle* and *Harbour Islands*, at the entrance of the inner harbour, with a depth of 6 to 9 fathoms. Immediately to the N.E. of this is the entrance to the inner harbour: it is 100 fathoms wide, but shoal on each side, the depth in the middle being 7 fathoms; within is a capacious basin, where any number of vessels might safely winter. It is easily entered with a leading wind, but the entrance is too narrow for a large vessel to beat into.

Carrol Cove is 3½ miles W. by S. of *Red Bay*; it is very small, and used by a few fishing vessels. Of the eastern point of *Black Bay*, there are two small islands, a mile apart, called the *Little St. Modest Islands*. They have a dangerous rock off shore, half a mile S.E. by S. from the W. extreme of the western isle; this must be carefully avoided. *St. Modest Isle* is on the opposite or west side of *Black Bay*; it is bare, and within it, fishing vessels moor to the rocks on either side.

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BLACK BAY is 11 miles west of Red Bay; it is 3 miles wide, and about 2 miles deep. It is open to S.E. winds, which send in a heavy swell, but there is tolerable anchorage in 10 fathoms off a fine sandy beach, to the west of the river at the head of the bay. There is a rocky shoal of 3 fathoms, one mile N.W. of St. Modest Island.

From St. Modest Island 11 mile S.W. is Cape Diable, and to the west of this is **Diablo Bay**, which with **Loop Bay**, 3 miles further, may be readily known by the magnificent cliffs of red sandstones, 300 or 400 feet high, which extend two or three miles between them. **Schooner Cove** is on the S.W. side of Loop Bay; it is open to the eastward, but fishing vessels use it in the summer months. There are a fishing establishment and several houses in this cove. The anchorage in Loop Bay is extremely good; it is best in the N.E. corner of it; although open to the south, vessels ride here all the summer.

FORTEAU BAY is 4 miles west of Loop Bay; it is 4 miles broad between **Point Amour**, the S.E. point, and **Point Forteau**, the S.W. point, and which bears E. & S. from the other; it is about 2½ miles deep, and runs to the northward. At the head of the bay is a large and rapid river, abounding in salmon, and a fine sandy beach. There is a fine fall of water 1½ mile within the bay, from **Point Forteau**, which, with the lighthouse on, and a remarkable high rock off the S.W. of **Point Amour**, will serve to point out the bay to strangers. It is the best roadstead in the Strait of Belle Isle, and the Jersey vessels employed in the fishery lie moored all the summer; they have large fishing establishments on the west side of the bay. The best anchorage is on the N.W. side, opposite the fishing establishments.

POINT AMOUR LIGHTHOUSE is a circular stone tower 108 feet high, faced with white brick. It shows a brilliant fixed light at an elevation of 135 feet, visible 18 miles off. Signal are made during fog by a fog whistle; should this get out of order, a gun is fired.

From **Point Amour**, across the entrance of the Strait of Belle Isle, to the N.W. extremity of Newfoundland, the distance is 4½ miles.

YORK POINT is quite bold, and so is **Chateau Point**, to the west, but has shoal water 50 fathoms off it to the S.E. - It may be considered as the north point of the east entrance of the Strait of Belle Isle; to the N.W. of it is a high ridge called the High Beacon, 500 feet above the sea.

The coast runs westward, straight and bold to **Wreck Bay**, which is W. & S. 104 miles from **York Point**. It affords no shelter. Two miles and a half S.W. of its east point is a rocky point, with 5 fathoms. **Wreck Bay** is W. & S. 104 miles from **York Point**, and affords no anchorage. **Green Bay** is about 2½ miles W. by N. from **Wreck Bay**, and is open to the S.E.; the holding-ground is not good, but it is sometimes used by small vessels. Between this and **Red Bay** is the **Swan Lodge**; the rocks are small, bearing S.E. & S. ½ mile from **Twin Island**, close to the east point of **Red Bay**.

RED BAY is a beautiful little harbour, perfectly sheltered from every wind. It is formed by double islands lying off the entrance of a bay; it has a hill at each end, about 100 feet high. To the west of this is **Wreck Bay**, exposed to easterly winds, but with tolerable anchorage in 10 or 12 fathoms in westerly winds. The outer harbour of **Red Bay** is between double and Harbour Islands, at the entrance of the inner harbour, with a depth of 5 to 8 fathoms. Immediately to the N.W. of this is the entrance to the inner harbour; it is 100 fathoms wide, but shoal on each side, the depth in the middle being 7 fathoms; within is a capacious basin, where any number of vessels might safely winter. It is easily entered with a leading wind, but the entrance is too narrow for a large vessel to beat into.

Schooner Cove is 3½ miles W. by S. of **Red Bay**; it is very small, and used by a few fishing vessels. Of the eastern point of **Black Bay**, there are two small islands, a mile apart, called the Little St. Modest Islands. They have a dangerous rock off shore, half a mile S.E. by S. from the W. extremity of the western island; this must be carefully avoided. **St. Modest Bay** is on the opposite or west side of **Black Bay**; it is

PART II.

THE GULF AND RIVER OF ST. LAWRENCE.

[A description of the harbours, &c., on the western and southern sides of the Gulf of St. Lawrence below Cape Rosier, is reserved for the next Part.]

THE entrance of the Gulf of St. Lawrence lies between Cape North, the N.E. point of Breton Island, and Cape Ray, the S.W. point of Newfoundland. The distance between these Capes is 18 $\frac{1}{2}$ leagues; and the bearing from the former to the latter E.N.E. $\frac{1}{2}$ E.

At the distance of four leagues E.N.E. from Cape North, lies the little island of St. Paul, which has a lighthouse at each end of it, and deep water all round. From Cape Ray, the bearing and distance to this island are W. $\frac{1}{2}$ S. 40 miles.

COMPASS BEARINGS AND DISTANCES.

Cape Ray to the Bird Islands, N. W. $\frac{1}{2}$ W. 25 leagues.
Cape Ray to the east point of Anticosti, N. by W. $\frac{1}{2}$ W. 43 leagues.
Cape North to the N.E. end of the Magdalen Islands, N. by W. $\frac{1}{2}$ W. 16 leagues.
Cape North to the Bird Islands, N. $\frac{1}{2}$ W. 18 $\frac{1}{2}$ leagues.
N.E. end of the Magdalen Islands to the Bird Islands, E.N.E. 17 miles.
N.E. end of St. Paul's Island to the east side of the Bird Islands, N. by W. $\frac{1}{2}$ W. 66 miles.

I. GENERAL PHENOMENA.—WINDS, WEATHER, CURRENTS, ICES, ETC.

WINDS.—The prevalent wind, in the summer, in all parts of the River and Gulf of St. Lawrence, is from the S.W. Westerly winds are almost always accompanied with fine, dry, sunny weather; easterly winds as frequently the contrary. Steady N.W. winds do not blow frequently before September, except for a few hours at a time, when they generally succeed easterly winds that have died away to a calm, and usually year round to the S.W. In the spring, easterly winds are the prevailing winds, sometimes blowing for several weeks in succession. Strong winds seldom veer quickly round from one point of the compass to another directly contrary; in general they die away to a calm, and are succeeded by a wind in the opposite direction.

The direction of the winds in the river is generally directly up or down its course, following the direction of the high lands on either shore. Thus a S.E. wind in the Gulf becomes E.S.E. between Anticosti and the S. coast; E.N.E. above Point de Monts; and N.E. above Green Island.

FOGS.—The prevalence of fog is one of the greatest sources of danger in the navigation of these parts, and during their prevalence there is no sure guide for the mariner but the constant use of the lead. The fogs prevail when the wind is in the eastern quarter. They sometimes come with westerly winds, but they are rare, and never of long continuance. Winds between south and east bring rain and fog in almost every part; and E.N.E. winds in the River, above Point de Monts, becoming S.E. winds in the Gulf, have the same foggy character.

These fogs are probably occasioned by the unequal temperature of the water brought down by the river and that of the gulf, which is colder, from the influx of the northern stream through the Strait of Belle Isle, and between these and the air. The eddy flood mixing with the waters of the River, besides occasioning the dense and low fogs, are also probably the occasion of the phenomenon of Mirage, which sometimes occurs, and which is caused by terrestrial refraction from unequal temperatures in the different strata of the air and water.

Amongst other phenomena met with in the Gulf and River of St. Lawrence, is the local attraction or deviation of the compass, but this has probably been over-rated: this subject is noticed in the directions for sailing up the River, given hereafter. Captain Bayfield says, "The magnetic oxide of iron does exist abundantly, and attracts the needle very powerfully at some points, particularly along the coast from the Bay of Seven Islands eastward. Among the Mingan Islands we found the variation to vary from this cause from 19° to 31° west. At point Neuf, and on Manicougan Point, the needle was also disturbed; but these effects were only noticed when the instrument was placed on the shore. In two instances only, when sailing within two miles of the shore, have we observed any effect of the kind upon the compasses on board the *Gulbore*, and then only to the amount of a few degrees."

It should be remembered that the variation differs nearly two points, or 24° between Belle Isle (39°) and Quebec (17°), and that these variations are increasing at from 54° to 74° per annum.

CURRENTS.—The current which prevails through the Strait of Belle Isle passes along the north shore of the gulf, at a short distance from it, leaving a space between it and the land, in which the alterations of tide are tolerably regular, when not otherwise affected by the winds. Pursuing this N.W. direction towards Cape Whittle, and gradually losing its force as it advances, it takes the direction given it by the trending of the coast at this part, and meeting with the current which comes from the west from the river on the north side of Anticosti, and which perhaps is deflected by the projection of the land at Natashquan Point, it gradually takes a S.E. course, across the gulf, and then meeting with the main current of the St. Lawrence, coming to the south of Anticosti, between it and the Magdalen Islands, the whole of the waters take a S.E. course, through the principal entrance of the gulf, between Cape Ray on Newfoundland and the Island of St. Paul.

These currents are modified by various causes, and their strength and direction are difficult to estimate, although it is of great importance that a proper allowance should be made for them, as, from their southern tendency, may vessels are lost, from want of due precaution, on the coasts of Gaspé and its neighbourhood, on the Magdalen Islands, &c. "This current," says Captain Bayfield, "is checked by easterly winds, and may sometimes run in a contrary direction from the same cause." Northerly winds may also cause it to set to the southward, towards Breton Island.

The flood-tide entering the River St. Lawrence, proceed upwards in the wide and deep channel of the estuary, till it is obstructed by the contracted breadth of the river near Red Island, and the sudden shallowing of it near this part; from this cause it is prevented from continuing in its upward course, and in consequence of the quantity of water here collected not finding a sufficient outlet, it is *reverted*, and forms an eddy-flood. The stream of flood, therefore, runs in opposite directions, on either side of the river. This stream coming from the eastward, as it approaches the northern part of Red Island Bank runs very strong, sometimes at a rate of 4 knots, bearing round at this part, and proceeding in a different direction towards the Razade Islands, with a velocity of from 2 to 3 miles per hour, and then proceeds onward with a constant current downwards, thus adding to the current of water from the river itself, and increasing its strength. It is strongest in-shore, and extends about half-way over, diminishing in strength towards the middle; and from this difference in its velocity, and the unequal depth of the river, occasioning those violent whirls and ripples which occur in its strongest parts.

On the south coast of the part of the river between Cape Gaspé and Green Island, there is no upward current from the tides that is available for navigation: during the

GULF AND RIVER OF ST. LAWRENCE.

floods at spring-tides, there is a westerly current felt close in-shore, the line between the two streams being marked by strong rippling.

Off Point de Monts there is very little or no stream of flood, excepting close in-shore, and the downward current is constant off that point. The point diverts the current to the S.E. which runs at a rate of from three to two miles an hour. It is difficult for a vessel to beat round it with a westerly wind.

During the ebb tide, the stream runs down, on both sides, strongest on the southward and weakest in the middle of the strait. On the N. shore, it is turned to the southward by the projecting points at the Bay de Mille Vaches, Port Barabois, the Fenix, and of Manicougan, and Point de Monts, this fact is important, and ought to be attended to, as this southern tendency is increased at these points by the water brought down by the large rivers between them.

On the south side, the stream of the ebb tide is also increased by the influx of water from the Saguenay River, which, setting with great velocity across the bar and Red Island Bank, adds to the downward course of the stream. The tides in the river above this part are described hereafter.

On the approach of winter the navigation of the gulf is greatly impeded by floating ice, and the river is at length choked with broken fields of ice, exhibiting the most varied and fantastic appearances; the whole country on each side is then covered with snow, and all the trees, excepting the stern fir-trees, are denuded of their foliage.

In crossing the gulf, even during the summer months, islands of ice have frequently been met with. The ice that drifts out of the rivers all disappears by the latter end of May, but these masses make no part of it. The conjecture is that they are not formed on any of the neighbouring coasts, but descend from the more northerly regions of Davis's Strait, &c., where, it is presumed, they are severed by the violence of storms, from the vast accumulations of the arctic winter, and passing near the coast of Labrador, are drawn by the in-draught of the current into the Strait of Belle Isle. They often are a hundred feet in height, with a circumference of many thousands, the indications of their presence in the night or during fog, have been described on page 7. By day, from the dazzling reflection of the sun's rays, and moonlight, at a safe distance, their appearance is brilliant and agreeable.

In the fall of the year accidents from ice seldom happen, except when the winter commences unusually early, or when vessels have lingered imprudently late from the temptation of obtaining high freights.

At Quebec, taking the mean of a number of years, the navigation is closed by ice from the 26th of November to the 24th of April. The earliest closing observed was on the 20th of November, and the earliest opening on the 15th of April. The St. Lawrence seldom freezes across opposite the City of Quebec, being kept open by the rapid tides in the comparatively narrow channel there. On the 22nd of April, 1833, it has been delayed until past the first week in May, as a general rule, the navigation is considered unsafe after the 15th of November or before the 20th of April, and even after this time named late vessels are often embarrassed by drift ice, which, however, a steamer would probably often be able to force her way through. As we proceed down the St. Lawrence, and enter the Gulf towards the northern shores of the gulf and of Newfoundland, the navigation is kept open on the island, taking the mean of two years' observations, the harbour was open on the 21st of December, and opened on the 15th of April, and in another year it remained open until the 27th of December; but, as a general rule, the navigation is not considered safe even in the southern part of the gulf after the first week in December, or before the 15th of April.

MAGDALEN ISLANDS:

There is no harbour for ships, and but three for small vessels, those at Amherst House, and Grand Entry Harbours.

It often happens, from the prevalence of westerly gales in the fall of the year, that ships bound to Quebec, after entering the Gulf, have been driven out again, or they have contended until their masts were worn out, and have gone to the low ports for cargoes, when, by taking an anchorage, they would have secured their passage. These islands may be approached, generally, by the lead, to seven fathoms of water.

Amherst is the most southern and principal island, connected with Grindstone Island by a double line of sand-bars, enclosing an extensive lagoon, five or six miles long, and from one to three wide, the southern part of which is called *Beauport Harbour*: it has three outlets into Pleasant Bay; the southernmost is the deepest, but has only 3 feet at low water. Pleasant Bay, to the east of this, and N.E. of the island, deserves the name. It is the best harbour in the Magdalens, and the only one that vessels can venture to ride in with all winds. The best anchorage is in 4 fathoms, the rocky point of the entrance of Amherst Harbour bearing S.W. $\frac{1}{2}$ W. two-thirds of a mile. Amherst Harbour is in the S.W. corner of Pleasant Bay; its entrance is very narrow and crooked, and over the bar is 7 feet least water.

The *Demoliste*, a remarkable hill of Amherst Island, on the S. side of Pleasant Bay, is about 280 feet high above the sea.

Pleasant Bay is the best roadstead in the Magdalen Islands, and the only one where vessels can venture to lie with all winds, during the three finest months of summer, June, July, and August. In those months, a gale of wind from the eastward, so heavy as to endanger a vessel with good anchors and cables, does not occur above once in three or four years. The riding, however, is often heavy and rough enough in north-east gales, and a vessel should be well moored with a whole cable on each anchor, and open hawse to seaward, and all snug aloft.

The best and most sheltered anchorage is in 4 fathoms, with the rocky point of entrance of Amherst harbour bearing S.W. $\frac{1}{2}$ W. two-thirds of a mile, and a little more than half a mile from high water mark on the sandy beach to the southward, when a remarkable and high sand hill will bear S. $\frac{1}{2}$ E. A vessel of large draught should anchor farther off, and should take notice that there is only from 3 to 3 $\frac{1}{2}$ fathoms in one part of the bay. The bottom is everywhere excellent for holding, and of red sandy clay. Nevertheless, the attempt to ride out a heavy easterly gale, either before June, or after August, will be attended with great danger, and Pleasant Bay cannot be recommended as a desirable place under such circumstances at any time of the year.

Fine weather, even in June, is not generally of long continuance, and dark cloudy weather is commonly indicated by a heavy swell rolling in from the eastward. Winds are frequently strong from W.N.W., but S.W. are the prevalent winds during the summer months.

To the west an islet of rock, called *Deadman's Islet*, stands alone in the sea, at $3\frac{1}{2}$ miles N.W. by W. from the western point of Amherst Island, and is extremely remarkable: in shape it is an irregular prism, and about three cables' length long by one wide. When seen broadside it resembles a body laid out for burial, hence its name; seen end on, it looks like a pyramid, and about 150 feet high above the sea. It appears to be quite inaccessible, and sharp at the top. The waves foam around its base, and dash their white spray far up its sides, beautifully contrasting with the remarkable colour of the rock, which appears of a dark reddish brown at each end, and bluish green in the centre, the colours passing into each other. A reef extends from it, for one-third of a mile, toward Amherst Island.

The *White Horse*, a very dangerous reef, lies N. 60° E. true 7 miles from Deadman Islet, and W.N.W. $6\frac{1}{2}$ miles from Gull Island, on the coast of Grindstone Island. It is small, and has 10 feet water over pointed rocks, on which the sea often breaks.

The *Pierre de Gros Cap* is another dangerous reef, on the west of Grindstone Island; it has 10 feet least water, and lies N.E. by E. $\frac{1}{2}$ E. 6 miles from the White Horse.

N.W. $\frac{1}{2}$ W. from Hospital Cape, and 3 $\frac{1}{2}$ miles from Cape La Tron, the nearest point of Grindstone Island.

Entry Island is the highest of the Magdalens, and 550 feet high above the sea. It may be seen, in clear weather, from 8 to 9 leagues off. The eastern side is bold and close to shore. There are high and magnificent cliffs of trap, porphyry, new red sandstone, and red marl around it, excepting the N.W. point, which has a long sandy spit off it; on the N. point is the remarkable Tower Rock. The cliffs of Amherst Island are also red of different shades; these contrasted with the green pasture of the hill-sides, the darker green of the spruce trees, and the bright yellow of the sand-bars and beaches, produce an effect extremely imposing in a brilliant sunny day, which sometimes occurs. The Andromache Rocks extend $1\frac{1}{2}$ cables from the High Rock, and there is a 3 $\frac{1}{2}$ fathom patch $\frac{1}{2}$ of a mile off the N.E. point.

The Pearl Reef lies E. by N. $\frac{1}{2}$ miles from the N.E. point of Entry Island, and S.E. $\frac{1}{2}$ S. $\frac{1}{2}$ miles from Cape Alright; it is small and dangerous, having 9 feet least water.

Grindstone Island, to the north of Amherst Island, is the second in size of the group: it is 550 feet high; and to the N.E. of this, Alright Island. Its S. point is Cape Alright, which is remarkable; the cliffs of a grayish-white colour, with occasional brick-red low down, are 400 feet high. The S. extremity of the cape is low, with a small rock close off it. Alright Reef lies E. by S. $\frac{1}{2}$ miles from Cape Alright; there is 6 feet water over it.

From Grindstone Island the W. coast is a continuance of sand-beaches and sand-hills for 9 to 10 miles, to Wolfe Island, which is of low sandstone cliffs, three-quarters of a mile long; after which the sand-beaches recommence, and continue with high sand-hills, occasionally 9 or 10 miles further to the North Cape, or Green Island, a precipice of considerable height. Off this are the North Cape Rocks, 600 fathoms off shore.

The East Point of the Magdalens is of low sand, with several sand-hills, which extend W. to the N.E. Cape. Off the East Point is the Long Spit, a ridge of sand, with from 2 to 3 fathoms of water, extending $1\frac{1}{2}$ mile S.E. $\frac{1}{2}$ S. from the point; and for $1\frac{1}{2}$ mile further the depth is from 4 to 6 fathoms. To clear this spit is 6 or 6 fathoms, take care not to bring Old Harry Head to bear to the southward of west. It is extremely dangerous, and there is a heavy breaking sea on it.

Dogle Reef lies S.E. $\frac{1}{2}$ E. 6 $\frac{1}{2}$ miles from the East Point. The least water on it is 3 fathoms on one spot, and 12 to 13 fathoms all round it. It seldom shows, but is one of the worst dangers of the Magdalens. The only mark to clear it is the North Cape of the Magdalens open two-thirds of its breadth to the N.E. of the North-East Cape, which is a remarkable hill, 280 feet high, on East Island, which stands at the head of Grand Entry Harbour, and can be seen over all the sand-hills.

S.W. of East Point is Coffin Island, the N.E. point of which is Old Harry Head, lying W.S.W. $\frac{1}{2}$ miles from it. From this head 2 $\frac{1}{2}$ miles S.S.W. $\frac{1}{2}$ W. lies the outermost of this Columbine Shoals, a patch of rocks with 3 fathoms water. Between this and Coffin Island are numerous small shoal patches, some of which have not more than 3 feet water. This is a dangerous part, and should not be approached at night, on daring fog.

At the S.W. end of Coffin Island is the entrance of Grand Entry Harbour, which is extremely narrow, and ought not to be attempted without a pilot. The depth in this entrance is not more than 10 feet least water, and the harbour itself is extensive and well sheltered.

Bryon, or Cross Island, is uninhabited. Its east end bears from the East Point of the Magdalen, N. by E. $\frac{1}{2}$ E. 10 miles. The north side has steep cliffs of red sandstone. Approach no nearer than in 5 fathoms. Reefs extend three-quarters of a mile to the N.E. off its east end; another off the west end extends $1\frac{1}{2}$ mile to the west; and off the sandy S.W. point, a third extends $1\frac{1}{2}$ mile to the southward. On the south side there is good shelter, with north and west winds, in 6 fathoms.

sandy bottom, the east end of the island bearing E. by S. and the reef to the westward bearing west. In this road is a strong under-set, which makes a ship at her anchor roll heavily.

THE BIRD ISLANDS or **ROCKS** are small and not far removed from the passage between them is a rocky ledge. They are of moderate height, flat and white at top. One appears like a high stump and abounds with gunneth. The other is the largest; from the east end extends a small ledge of rocks. Between these islands and Bryon Island is a rocky ledge, with a depth of from 4 to 7 fathoms. It is generally recommended to pass to the eastward of the Bird Islands, unless a special advantage may be gained by passing between them and Bryon. In sailing from these islands toward Cape Rosier, you will have a depth of from 30 to 60 fathoms. At the distance of 18 miles from the islands, and three miles from Cape Rosier, the Cape is reached. It is proposed (1880-1) to erect a lighthouse on the Bird Rocks.

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Entered in December, 1834. It should therefore be borne in mind that there is now no provision-post here. These particulars are given as a caution.

A complete list of the wrecks which have occurred on Anticosti would be a melancholy document; but the instances already given are sufficient to show with how much caution the island should be approached. In thick and foggy weather, the *Burns* were stranded here and lost on the 22nd of August, 1834, at about 15 miles from the light-house, when the latter could not be seen about 2 miles off shore. The vessel was wrecked at the point of the island, and the crew were rescued. The vessel was 100 feet high. To the northward of it is *Wreck Bay*, which is dangerous, and affords no shelter.

EAST POINT LIGHTHOUSE. At the extremity of the low land to the northward of Wreck Bay is *Heath Point*, on which stands a limestone tower, 90 feet high; as the point itself is not more than 10 feet above the sea, at a little distance it appears like a sail, and is useful in marking the extent of the low land to vessels either to the E. or W. of N. The light is brilliant and fixed, 110 feet above high water, and visible at 15 miles off.

Between *Wreck Bay* to the north and East Cape the coast is bold and steep; there is anchorage in various places between *Cape Sable*, *Top* and East Cape, at the distance of a mile from the shore. *East Point* is the south point of Fox Bay, and from it runs a dangerous reef for 1½ mile, with only a few feet water, and 10 fathoms close to the end of it. A house is at the N.W. side of the head of the bay, and is the scene of the sufferings of the crew of the *Granicus*, mentioned above.

From *Heath Point* the remarkable bay, from which it derives its name, and from hence to *Cape Robert*, 19 miles north-westward, this coast is broken into small bays, which afford no anchorage, a long and tedious voyage to the shore.

From *Cape Robert* to *Bear Head* the bearing and distance are N.N.W. 6 miles. Between them is *Bear Bay*, which is the best anchorage on the north of Anticosti, and this is in 13 fathoms water. *Cape Robert* bearing S.E. ½ S. and *Bear Head* N. by W. ½ W. From *Bear Head* to *Cape Observation*, a bold high, and remarkable headland, is 12½ miles north-westward; the coast between them is bold, with high, greyish white cliffs, and small bays between.

Eleven miles north-westward from *Cape Observation* is *Carleton Point*, under which vessels may anchor in fine weather, and can procure wood and water. Farther on is *West Cliff*, which appears like a white patch on the land, and can be seen at a distance of 8 or 7 leagues. It is now also marked by a beacon. From *Carleton Point* to *West Cliff* there are low cliffs. From *West Cliff* to *High Cliff* is 26 miles; between them the coast is low in front, with high ridges a short distance in the country. This part of the coast is very dangerous, as the reefs extend for two miles onward, commencing at *West Cliff*, where they are half a mile broad, widening to about 12 miles from *High Cliff*, and terminating about 7 miles E. of it. *High Cliff* Cape is easily recognised, as it is the only cliff on the north coast to which the sea does not come quite up to the base.

From *High Cliff* to *North Cape* is 13 miles; it is wooded, of very moderate height, and without any cliff. It is distinguished by a beacon. The coast here trends round to WEST POINT, between which are flat reefs, extending a mile off shore. It is in lat. 49° 52' 20", and long. 64° 32' 8".

WEST POINT LIGHTHOUSE is a white tower 100 feet high, and shows a bright fixed light at 112 feet above high water, visible from a distance of 15 miles.

Between *West Point* and *Cape Henry*, the reefs extend a mile and a quarter off shore, and ought to be approached with caution.

Ellis Bay is the only good anchorage in the island of Anticosti. It runs inland between *Cape Henry* and *Cape Eagle*. Off these two capes run flat limestone reefs; that from *Cape Henry* is nearly a mile out to the south, and the other extends three

quarters of a mile west of Cape Eagle. The entrance between them is 600 fathoms wide, between the depths of three fathoms.

In approaching the bay with westerly winds, run down the reefs off Cape Henry in ten fathoms, until the west side of the *White Cliff*, on the E. side of the bay, is on with the E. side of the westernmost of two hills at a distance, which lie near the north coast between the north and west points; then haul up with these marks on, which will lead into smooth water, close under Cape Henry Reef, in 84 fathoms, until Mr. Gamache's House bears N. by E., and then bear up for it, and anchor in 3 fathoms, muddy bottom, about half a mile from the flats at the head of the bay, and 300 fathoms from those on either side.

Beccas River is a very small stream at the head of a small cove, affording shelter for boats, and is 12 miles S.E. from Ellis Cove; and seven miles further, in the same direction, are *St. Mary Cliffs*, which are 21 miles from South-West Point, a wooden beacon, in the form of a cross, stands on the cliffs. *Observation River* is 54 miles northward of this point, and is the largest stream on the island: on the north of this river are some conspicuous sandy cliffs. Between South-West Point and Ellis Cove there is no anchorage, and off the shore there are reefs of flat limestone, extending fully a mile, and often 10 or 12 fathoms water close to them.

South-West Point, and Lighthouse. The point is a low projecting mound of limestone, having a small cove on its north side, which forms it into a peninsula; on the western extremity of the point stands the lighthouse, a conical tower, 70 feet high, and the lantern elevated 100 feet above the sea. It shows a brilliant light, which revolves once in a minute, and is lighted every year from the 1st of April to the last day in December. To the lighthouse is attached a provision-post, which forms a very conspicuous landmark.

Salt Lake Bay has fine sandy beaches, enclosing lagoons, into which the tide flows. It is 11 miles south-eastward of the S.W. point, and off it, in the centre of the bay, with its N.W. point bearing N.E. $\frac{1}{2}$ E. 13 mile distant, there is very indifferent anchorage in 7 fathoms. At 6 miles east of Salt Lake Bay stand a beacon, with a lozenge head with cross beneath. Thirty-two miles from South-West Point is *Pavilion River*; a beacon with a lozenge and cross above is placed here. In this distance the coast is the boldest on the south of the island, and should be approached with caution. When far enough to the westward to see the revolving light S.W. point, care should be taken not to bring it to bear in the least to the westward of N.N.W.

Shallop Creek lies 13 miles N.W. of the South Point, and the houses of the provision-post are here: between this and the south point the coast is very low, and may be approached safely by using the lead.

South Point is a cliff of sandy clay, about 60 feet high; a reef extends south of it for nearly $1\frac{1}{2}$ mile. The tower on Heath Point and Cormorant Point bearing E. by S. in one clears this. A beacon with a lozenge-shaped head, on a mast 40 feet high, is placed on the cape.

The coast between South Point and S.W. Point is much the same in character all along. The principal distinguishing marks are are houses of Mr. Hamelle in charge of the provision-post at Shallop Creek, and the beacons at Pavilion River and South Point.

Cormorant Point bears E.N.E. 164 miles from South Point, and W. by N. 6 miles from Heath Point. Off Heath Point there is one of the best open anchorages on the island. The best berth is in 10 fathoms, sand and mud, with the light tower bearing E. by N. and Cormorant Point nothing to the west of W.N.W. The vessel will then be two miles off shore, and sheltered from all winds between W.N.W. to E. by N. round by north.

At Anticosti the tide flows on the full and change, at 1^h 48^m it runs tide and quarter. Springs rise 10, and neaps 4 feet.

III.—THE NORTHERN SHORE OF THE GULF, FROM FORTAU POINT TO CAPE WHITTLE.

The coast of Labrador, which is described in this section, is exceedingly dangerous, and, till the recent surveys, was very imperfectly known; there are, however, several good harbours, which can be entered by large vessels, and which are used by the fishers that frequent this coast.

The whole of the land consists of granitic rocks, without trees, except in the heads of the bays, where small spruce and birch trees are sometimes found. It is broken into numberless islets and bays, and fringed with islands and rocks, forming in some parts so intricate a labyrinth, that no ships of any size can find their way. The dangers of the coast are much increased by the fogs which accompany the prevalent southerly winds.

There are very few permanent inhabitants, but the coast is much frequented during the season by cod, seal, and salmon fishers. Cod is abundant, especially to the east of Mistanoque, and several vessels also visit the coast to procure the eggs of the sea-fowl, which are taken principally to Halifax. The permanent fur-trading and seal and salmon fishing establishments are at Bradore, Esquimaux Bay, St. Augustine Harbour, Little Fish Harbour, and Etamama; there are but few other inhabitants than at these places.

The coasts of the Strait of Belle Isle, &c., to Forteau Point, at its western entrance, were described on pages 75—77; we here resume the description, proceeding westward.

POINT AMOUR LIGHT, brilliant and fixed at 155 feet above high water, has been described on page 82. Forteau Bay is 4 miles wide, Forteau Point forming its western point.

Four miles W.N.W. from Forteau Point is *St. Clair Bay*. There are a reef and a low islet off its eastern point, to the S.W.; this bay affords no shelter.

Blanc Sablon Bay.—Three miles west from St. Clair Bay is *Blanc Sablon Bay*; it is exposed to westerly winds, but is sheltered by Wood Island and Greenly Island to the S.W. It is an unsafe anchorage, particularly in the fall of the year, and during winds from the west, which send into it a very heavy sea. It is a mile deep, and $1\frac{1}{2}$ mile wide; and on a projecting point at the head of the bay, are the buildings of the fishing establishment of the bay.

Wood Island lies off Blanc Sablon Bay; it is low and barren, and about $1\frac{1}{2}$ mile long, and has some fishing establishments on its east side.

Greenly Island lies $1\frac{1}{2}$ mile west of Wood Island, and between them is a clear channel; and off the south point of Greenly Island, at the distance of about 200 fathoms, is a rocky shoal. On its east side is a cove sometimes used by the fishers, but this anchorage, as well as that under Wood Island, is not good.

One mile and a half westward of Blanc Sablon Bay is *Gulch Cove*, a small inlet of the main; there are some rocks off its mouth which shelter it; it is so narrow, that there is not room for the smallest schooner to turn about in it; hence the vessels which frequent it are warped out stern foremost. From Blanc Sablon Bay to *Grand Point* is 21 miles. Off it is a dangerous reef of rocks, 350 fathoms to the south and west; and eastward of it, for $1\frac{1}{2}$ mile, there are rocks above and under water, extending off the shore for a quarter of a mile in some places.

From Greenly Island to Southmakers Ledge the course is W. $\frac{1}{2}$ S. [S.W. by W.] and the distance 128 miles; but the course between them on this bearing is not safe, as it will take a vessel too near the Murr Rocks, and would pass just within the St. Mary Rocks. The best course would be W. by S. 128 miles, until past the Southmakers Ledge.

Perroquet Island lies N. by W. $\frac{1}{2}$ W. $1\frac{1}{2}$ mile from Grand Point. It is high, and is frequented by vast flocks of Puffins. It is nearly half a mile from the land, but there is no channel between.

One mile and a half in the same direction from Grand Point, is the edge of the shoals on the south of *Ledges Island*. Opposite to the centre of this island, on the main, to the east, is an establishment which is about 14 miles N.N.E. from the west side of *Perroquet Island*.

BRADORE HARBOUR is on the north-east side of *Ledges Island*; the passage to it is from the south, between a chain of islands off the island, which are quite bold to, forming the western side of the channel, and the coast of the main, on which is the before mentioned establishment, the eastern side. There is no passage to this harbour to the north or west of *Ledges Island*, as the space is crowded with rocks and dangers, although there is a narrow and very deep channel for small vessels close on the island. To enter *Bradore Harbour*, coming from the east, give *Grand Point* a berth of half a mile, to avoid the reefs lying off it, or taking care that the west extreme of *Perroquet Island* does not bear to the west of south; *Perroquet Island* may be passed as near as a quarter of a mile, having passed this, haul towards the entrance till the west extreme of *Greenly Island* is half a point open of the west extreme of *Perroquet Island*, or bearing S. $\frac{1}{2}$ W., which will clear the *Gull Rock and Ledge*, which bear S.W. by W., and are distant 280 and 490 fathoms respectively from *Point Jones*, on which the houses stand. The rock just covers at high water, and therefore can always be seen; and the ledge has 2 fathoms least water, and therefore is extremely dangerous. On the west side of this ledge, the west ends of *Perroquet* and *Greenly Island* are in one, and they may therefore be avoided by the course above mentioned. Proceed on this course N. $\frac{1}{2}$ E., till *Jones's house* bears E.N.N. and the northern islet on the east appears like the north extreme of *Ledges Island*, N.E. by N; then steer for the latter, leaving the *Gull Rock* to the east, and looking out for a small rock lying off an island on the opposite side, after passing which, the channel is clear, keeping nearer the islets than the main. A run of about 700 fathoms from the houses, will bring you opposite the entrance of the harbour, when you must haul sharp round to the westward, between the islets into the harbour; this entrance is 80 fathoms wide and 8 fathoms deep. The harbour is perfectly landlocked, but will accommodate but a small number of vessels; the depth being from 4 to 17 fathoms, muddy bottom.

In approaching *Bradore Harbour* from the west, beware of the reefs, which extend three-quarters of a mile to the south-west of *Ledges Island*.

At the back of *Bradore Bay*, 4 or 5 miles from the north-east end of it, are the *Bradore Hills*, the highest land on this coast, that to the north-west being 1264 feet above the sea.

BRADORE BAY is 54 miles wide from the south of *Ledges Island* to *Point Belles Amours*, bearing N.W. by W. [West] from it. This bay is very dangerous, from the heavy sea sent into it by southerly winds, but on its western side is a beautiful little harbour, *Belles Amours Harbour*, in which a great number of vessels can be perfectly landlocked. Water can be procured here, but firewood is very scarce on this coast.

Belles Amours Harbour.—The channels to this harbour are formed by *Point Belles Amours* on the south-west; it is a mound of bare granite, 60 or 70 feet high. *Stony Point*, low and green, bearing E.N.E. $\frac{1}{2}$ E. 14 miles distant from it, and the *Flat Rocks*, lying 14 miles S. by W. from *Stony Point*, and 10 miles E.S.E. $\frac{1}{2}$ E. from *Point Belles Amours*; these form the east and west passages to the harbour.

To enter it from the east, steer N. by W. $\frac{1}{2}$ W., leaving the *Flat Rocks* a quarter of a mile to the west, until you approach the east side of *Harbour Point*, a bare granite hill, 150 feet high, with several peaks of stone on it, within 100 fathoms, taking care not to approach *Stony Point* within a cable's length; then steer north till you are abreast of the rock above water on the sandy part of the point, then bear a little to the westward, so as to bring the east side of *Harbour Point* and *Pond Point* in one; *Pond Point* is nearly opposite *Stony Point*. Keep them in one to clear the north extreme of the *Flat*, until *Mark Point*, the extreme on the north side of the harbour, comes on with *Peak Point*, a remarkable rocky point in *Middle Bay*,

bearing W. 1 S. When this mark comes on, haul sharp round to the westward, keeping at less than a cable's length from the high north shore, until you are well within the sandy spit, when you may anchor anywhere to the southward, in from 3 to 7 fathoms, muddy bottom.

Between Point Belles Amours and the Flat Rocks, there is a rocky patch of 18 feet water; there are other patches of 3 fathoms between this and the point. To enter the harbour by this western passage, which is preferable in westerly winds, take care not to shut in Stony Point, behind Point Belles Amours, for fear of the Middle Ledges, which lie off Middle Point, the outermost 600 fathoms off shore. From Point Belles Amours at the distance of 200 fathoms, and keep at that distance from the shore till past Pond Point; then bear away to Harbour Point, and proceed as before directed.

Middle Point lies 1 mile W. & N. from Point Belles Amours, and 4 miles E. & S. from Five Leagues Point; between which and Middle Point is Middle Bay, a fine open roadstead, free from all danger. It runs N.N.E. for 2 miles, and is about a mile wide; the depth is between 4 and 15 fathoms, sandy bottom. Five Leagues Point is the south-west extremity of a peninsula, which is remarkable from an isolated and precipitous hill, 800 feet high, three-quarters of a mile north-east from its extremity; and from the point the two Barrier Reefs extend 1 mile to the westward, but are not joined to it; there is also a reef, partly uncovered, running for a quarter of a mile to the south-west of the point. These are cleared by keeping the south extremes of Ledge and Belles Amours Points in one, bearing E. 1 S.

Five Leagues Harbour is to the west of the point of the same name, but is quite unfit for any vessel of moderate size. Salmon Islet lies W. by N. 4 miles from Five Leagues Point; it is nearly joined by a spit of sand to Caribou Island, off which the shoals extend nearly 400 fathoms to the S.E. Between this island and the main to the east of it is the eastern entrance to Salmon Bay, which has but six feet depth at low water; the other entrance to the bay is from Bonne Esperance round to the north of Caribou Island, in which is plenty of water, and is well sheltered.

BONNE ESPERANCE HARBOUR is the best harbour on the coast, and lies on the west of Caribou Island. Whale Island lies N.W. by W. 1 W. (W. 1 S.) 18 miles from Greenly Island, at the entrance of the Strait of Belle Isle, and all vessels bound to Bonne Esperance endeavour to make this island, which is the south-easternmost of the Esquimaux Islands. It has a roundish hill near its centre, on which is a pile of stones, as there is also on almost every summit of these islands. Whale Island bears W. 1 S. W. 1 W. (S. W. 1 S.) 4 miles from Salmon Islet before mentioned. Between this is the island which forms the harbour. They are very steep, and of bare granite. Goddard Island lies to the south-west of Caribou Island, and joined to it and another islet by shoal water; it has a small rock off it, 130 fathoms to the south-west, and 330 fathoms to the south of it is Goddard Rock, which dries at low water. On the other side of this channel, opposite to these rocks, are the Hatch, a small uncovered rock, and Breaking Ledge, which just covers at high water. The entrance to the harbour between these is 450 fathoms wide, and 17 fathoms deep. Beacon Islet lies W. 1 S. W. 1 W. one mile from Goddard Islet; it is rather low, and a pile of stones on it. Three-quarters of a mile west of it is Red Head, an island bearing E.N.E. [E. by S.] 900 fathoms from Whale Island. Fish Islet lies between them. To the north-east of Red Head Island is Chain Island, formed of two peninsulas, and beyond it Bonne Esperance Island, three-quarters of a mile long. Lion Island lies a quarter of a mile east of Bonne Esperance Island, and between them is a narrow and difficult channel. Between it and Bonne Esperance Island, on the east side of Lion Island is the Whelp Rock, which is always uncovered, and 50 fathoms from the island. Between this rock on the west and Goddard Island, the Caribou Islands on the east, may be termed the inner entrance, from the main channel. To enter the Bonne Esperance Harbour, bring to the eastward, and the wind from

the coast, stand toward Caribou Island, and when off the north side, and half a mile from it, the north side of Beacon and Red Head Isles, and the north side of Fish Islet, will be in one, bearing W. $\frac{1}{2}$ N. Bear up on this mark, or else steer west, keeping the lead going, and a sharp look-out for Goddard Rock. You will have about 9 fathoms at low water, until past this, when it will deepen suddenly to 15 or 19 fathoms, and then you will be in the channel. Bear immediately N. by E. and Whelp Rock will be right ahead in one with the west side of House Island, lying close under the mainland, about a mile from Lion Island; it has a house on it. Keep on this bearing till past the Bold Rock, off the south-west point of Goddard Island, bearing a little eastward to clear Lion Bank and Whelp at a cable's length, and then run up W.N.W. close along the inner sides of Lion and Bonne Esperance Islands into the harbour, anchoring where you please, in 12 to 16 fathoms, over a muddy bottom. The whole bay may be considered as a harbour, wood and water may be had in abundance from the mainland.

In coming from the west with a leading wind, keep half a mile from the south point of Whale Island, and steer E. by N., to avoid two 4-fathom dangers; one the *Whale Patch*, lying half a mile E. by S. from the centre of Whale Island, the other two-thirds of a mile south of Beacon Island, called the *Middle Patch*. These may be avoided by not coming within a less depth than 10 fathoms, or by keeping southward of the track above mentioned. Keep on this bearing till Whelp Rock and House Island are in one, bearing N. by E., then haul in upon that bearing, and proceed as before. There are several other entrances into Bonne Esperance Harbour, between the surrounding islands.

ESQUIMAUX BAY and RIVER lie to the north of Bonne Esperance Harbour. *Esquimaux Island* lies in the middle of the bay, and forms, with the main to the east, a very narrow channel, which runs 11 mile E.N.E., and then opens into a wide space with two islets in it. The mouth of the River, and the trading post may be reached by keeping along the east coast. The trading post is on a sandy point, backed by spruce trees, 2 miles above Esquimaux Island. The river abounds with salmon. The approach to this river from the westward is so intricate from the number of islands, that no directions can be given.

ESQUIMAUX ISLANDS.—These islands commence at Caribou Island, and extend for 14 miles to the westward. They are generally bare of trees, and are of all sizes, and height under 200 feet. They form an endless number of channels, which it would be impossible to describe; and on them are several small rocks and shoals, some of which are fifty 4 miles from the mainland.

Proceeding westward from Whale Island, 41 miles, N. by N.W. we come to the *Fort Rocks*, which are low and extend 666 fathoms to the south-west of *Old Fort Island*, which is of moderate height, and 14 mile in diameter. The only channel through the islands, between Whale and Old Fort Islands is the *Whale Channel*, between Whale and Tent Islands.

Mormot Islet is 14 mile W.N.W. of the outer *Fort Rocks*, it is low, and has a ledge off to a quarter of a mile to the south-west. Midway between *Fort Rocks* and *Mormot Islet*, the course is through *Old Fort Channel*, with N. by N. with very deep water the whole way to *Old Fort Bay*, which runs toward the north-east for 4 miles, with deep water to its head.

The *Dog Islands* lie to the west of the *Fort Rocks*; they are very numerous, and are surrounded with innumerable rocks and shoals, although there is anchorage between the northern of them and the main, which can be got at easily with a westerly wind from Shecatia, by running under the main land, in the channel between it and the ledge lying off it.

The *Eden Islands* lie to the north of the *Mormot Islands*, and east of the *Dog Islands*.

From the Outer *Dog Rocks* the *Dog Rocks* lie W.N.W. $\frac{1}{2}$ W. 51 miles, and are three-quarters of a mile off shore; the *Boat Islet* lies 51 miles further on in the same direction. It is a small round-backed islet, green at the top, and about 70 feet high. Together with the opening to Lobster Bay, 14 mile E.N.E. from it, it serves

to point out to a vessel its position off the coast. *Lobster Bay* is a narrow inlet running 4 miles to the north-east, and towards its upper end there is anchorage.

The *Petit Rock* is the outermost danger on this part of the coast. It lies 1½ miles from S.S.W. from the Boulet, and dries at half tide.

Rocky Bay runs 1½ mile inland to the N.E. by E., and is one mile east of Lobster Bay. There is a small cove and fish stage, which is well sheltered, one mile up it, on the S.E. side. To the west of Lobster Bay is *Napetepes Bay*, which is very similar to it, and runs N.E. for 4 miles. Being open to the sea, there is no shelter with a southerly wind; and is, as well as those to the east of it, too narrow to boat out of, with a contrary wind.

Shecatia Island lies W.N.W. 3½ miles from Boulet Island, and contiguous to it on the west is *Mistanoque Island*, and lying close to the main. *Mistanoque Bay* lies directly behind the island of the same name, and runs inland 2 miles to the N.E.; towards the head the depth decreases, so as to be convenient for anchoring.

Mistanoque Harbour. Opposite the mouth of the bay, on the north side of the island, is *Mistanoque Harbour*, with a depth of 15 to 20 fathoms. Vessels may anchor in less water a little to the east, between the east point of the bay and the island. *Enter Islet* lies nearly half a mile to the west of *Mistanoque*, and *Diver Islet* lies off its western side; and to the south of which, a reef of rocks runs out 130 fathoms. These islets are low, and 400 fathoms to the N.W. of them is a group of small islands, forming with the others, the western channel to the harbour, which is quite clear. There is nothing immediately outside *Shecatia*, *Mistanoque*, *Enter*, or *Diver Islands*; as that no other directions seem necessary, than to run through the centre of either channel which may be preferred.

Shag Islet bears N. by S. 3½ miles from *Mistanoque*. It is the best guide for making the latter from the west, as the Boulet, &c., is from the east. It is small and high, with a round peaked hill, looking green in the middle, and is very remarkable. To the S.E. by E. from it there are many rocks; *Shag Rock*, the outermost, is 2 miles from it. When three-quarters of a mile south of the *Shag Rock*, the south point of *Shecatia* will bear E.N.E. 8 miles off, and this course will take a mile to the south to the *Three Rocks* lying midway between them.

CUMBERLAND HARBOUR bears N. by E. 3½ miles from the outer *Shag Rock*. It is an excellent harbour, the best and easiest of access on this coast. It may be known by a remarkable high hill on the main land, 3½ leagues north from the entrance of the harbour; it is the highest in the neighbourhood, and resembles a castle at the top. The harbour should be approached between the *Shag Rock* and the *Three Rocks*, which bear E.N.E. 2½ miles from the other. The islands forming the harbour are of moderate height, the easternmost making in two round hills. In sailing in there is no danger but what shows, except a small rock, which lies S. by W. rather more than half a mile from the west point of the entrance. As soon as you arrive within its outer point, haul over to the west side, bear N. by W. ½ W. three-quarters of a mile to the farther point on the west, and then haul to the eastward and anchor where you please. Water can be procured here.

The coast at this part, lying between *Mistanoque* and *Cape Mecatina*, is broken into immense bays and inlets, the islands being very large, of moderate height, and partially covered with moss. The outer coast is lined with small inlets and rocks, which are very difficult to pass through, while within them, there is a great depth of water in the intricate channels and bays between the islands and the main.

Sandy Harbour lies N.N.W. ½ W. 2½ miles from *Shag Island*, in the large island of the same name. To sail into it, pass to the east of the *Egg Rocks*, lying 1½ mile N.W. by W. from *Shag Island*, and keep the starboard point of the bay, bearing N.E. more than half a mile from *Egg Island*, on board in going in. You will then see a small uncovered rock to the north, lying toward the east side of the entrance to the harbour; and which may be passed on either side, and then steer N.N.E. ½ E. for the harbour; and when within the entrance, haul to the N.W. and anchor in 6 or 8 fathoms.

Port Augustine is very small, with a narrow and intricate entrance. There is a seal-fishing and trading post here. The entrance to it is to the west of *Augustine Chain*, a chain of small islets, the outer one a smooth round rock, the south extremity of the chain bearing W. $\frac{1}{2}$ S. 7 miles from *Shag Island*.

Ragle Harbour, on *Long Island*, is not fit for anything but small vessels, the entrances being narrow and intricate; and this part of the coast is very dangerous on account of the numerous islets and rocks off it.

Wood Island, so called from its being covered with wood, lies off the entrance of *Fish Harbour*, N. $\frac{1}{2}$ W. $\frac{1}{2}$ miles from the *Bottle*, on the north of *Great Mecattina Island*. The entrance to *Fish Harbour* is on either side of *Wood Island*, the northern being the best, there being a ledge to the south of the island which always shows; and a rock of 2 feet one-third of a mile S.S.E. $\frac{1}{2}$ E. from the east point of the island. Wood and water may be obtained, and there is a trading establishment here.

Ha-Ha Bay is at the western end of the islands which hide the mainland from between it and *Mistandique*. It runs N.E. by N. for eight miles, and has several good anchorages, but is out of the way of vessels. To *Seal Point*, the western side of the entrance, is a mile N.E. of *Wood Island*.

GREAT MECATTINA ISLAND is to the south of *Ha-Ha Bay*, and 1 $\frac{1}{2}$ miles S.E. from *Red Point*, the nearest part of the mainland. It is 34 miles long, north and south, 3 miles wide, and about 500 feet high in the centre; it is granitic, and the position of the island, with relation to the high land inside of *Cape Mecattina*, 4 or 5 miles W.N.W., distinguishes it from any other island in the Gulf.

Nearly joined to its north point, is the *Bottle*, a high round islet, with a small rock close off it; to the N.W. by N. and half a mile in the same direction, is a rocky shoal of 4 fathoms. *Bluff Head* is the high N.E. point of the island, and between it and the *Bottle* is a cove, one mile deep, called *Island Harbour*, sheltered from the east by a cluster of small islets and rocks, leaving a passage on either side of them. The anchorage is near the head of the cove, in from 14 to 20 fathoms.

Treble Hill Island lies E. by S. about 3 miles from the centre of the island. *Flat Island* lies S.S.E. $\frac{1}{2}$ E. 3 miles from the south point, and the *Murre Islets* lie S.W. about 4 miles from the same point, and a quarter of a mile N.E. by E. from the easternmost of them, is a ledge on which the sea generally breaks. These islands are quite bold to, and swarm with sea-fowl.

Mecattina Harbour is small and safe, lying between *Mecattina Island* and the mainland, $\frac{3}{4}$ miles N.W. by W. from *Round Head*, a high peninsula on the west side of *Great Mecattina Island*, and $\frac{1}{2}$ miles N.E. from *Cape Mecattina*. The eastern entrance is rendered difficult from a reef of rocks running across it to the northward, and should not be attempted but in fine weather, as the slightest mistake would place the vessel on shore. The western entrance is in the small bay between *Mutton* and *Mecattina Islands*, but there is no anchorage in it, and to enter the harbour it is only necessary to keep in the middle, there being no danger to pass safely through the narrow western entrance. The depth within is 6 or 7 fathoms, but 3 fathoms can only be carried through the entrance. Wood and water can be procured, and it is much frequented by whale fishery.

To the west of *Mecattina Harbour* is *Portage Bay*, lying 2 miles N. by E. from the south point of *Cape Mecattina*. It runs in about 14 miles to the northward, and affords some shelter. In the mouth of the bay is a small islet, towards the east side, which forms a small harbour, the western entrance to which is the best. In the approach to this harbour there are two 15-foot ledges to be avoided, one 400 fathoms S. $\frac{1}{2}$ W. from the west end of *Mutton Island*, and the other half a mile N.E. by E. from the Southern *Seal Rock*, which is three-quarters of a mile N.E. by N. from the south point of *Cape Mecattina*. Inside the bay, just within the entrance, there is also a small cove on the east side for small vessels.

Great Mecattina Point.—The S.E. extremity is in lat. 60° 44' 10" north, and long. 62° 13' west. It is a lofty and very remarkable promontory of the mainland,

and of moderate height for some distance to the northward of its extremity, but about 3 miles to the north it rises to the height of 665 feet above the sea, and the high bank of the Maccartney, at the back of the Maccartney Harbour, is the highest land upon this coast.

From the point there are some islands and rocks, extending for 2½ miles nearly in a line S. by E. & E. from the southern extremity of the promontory.

The coast between this and Cape Whittle is of the most dangerous character to a stranger falling in with it at night or thick weather, and the quantity of wrecks found almost everywhere demonstrates this.

Little Maccartney Island.—The eastern point of this island lies W. S. W. ½ W. [S. W.] 1½ miles from Great Maccartney Point, and between them is an extensive bay, filled with innumerable islands and rocks, among which no vessel could find her way, and all description is therefore useless.

Little Maccartney Island is nearly divided into two parts by the *Bay de Salaberry*, on its western side; the northern portion is very low, composed of sand and shingle, and connected to the southern part by a very narrow isthmus. The south part is remarkable land, the highest part of which is 600 feet above the sea, and is visible from a great distance, while the islands and coast around it, being lower, cannot be discerned so far.

To the N. N. W. of the island is the *Little Maccartney River*, which is large, and falls 30 feet over granite, 2½ miles above the island. There is no channel for vessels between the island and the main.

HARBOR HARBOUR is on the east of the island, and has several rocks and ledges in it; it is open to the south, but the swell there is not large enough to affect a vessel.

In coming from the east to this harbour, the outermost danger in the space between it and Cape Maccartney is the *Fin Rocks*, lying W. S. W. ½ W. 10 miles from Cape Maccartney, and E. ½ N. 5½ miles from Point Antroub, the S. E. extreme of Little Maccartney Island, and between which is a large open bay, called the *Bay of Rocks*. With an easterly wind, these *Fin Rocks* ought to be passed at the distance of half a mile. After passing them, 2½ miles westward, the *Seals Rock* will be 400 fathoms to the right, and the *Teal Rocks* three-quarters of a mile distant; and one mile further on the same course, the *Single Rock*, just above water, will be three-quarters of a mile to the right, and which should not be approached nearer than a quarter of a mile, on account of three sunken rocks around it, 150 fathoms distant. When abreast of this, bear north-westward by degrees, till half a mile west of it, when the entrance to the Harbour will be quite clear, and to the W. N. W. It lies between *Daly* and *Price Islands*, and within the entrance, about 170 fathoms on the east side, is the *Watch Rock*, above water, and *Bold Islet*, one-third of a mile from the entrance. On the west side, bearing N. ½ W. 200 fathoms from the east extreme of *Daly Island*, which is the west side of the entrance, lies *Safe Rock*, above water, and nearly midway between it and *Bold Islet*, is *Rag Ledge*, which just dries at low water. These are the principal dangers near the entrance, and when within them you can choose the anchorage, by the lead, avoiding some 4 to 6 fathom rocky patches. In coming here from the west, after passing one-quarter of a mile off *Staff Islet*, lying off the east side of Little Maccartney Island, the entrance will bear N. ½ W. one mile distant; and it cannot be mistaken, as it is the only channel through which you can see clear into the harbour, the other channel between *Daly* and *Price Islands* to the east of the proper channel, being intricate and unsafe, and therefore must be avoided.

Little Maccartney Cove is on the east side of the island, to the N. N. E. of Point Antroub, but it is small and deep. Water can be procured at its head.

The South shore of Little Maccartney Island, to Cape Mackinnon, is high and bold, with remarkable beaches of white boulder stones occasionally; and to the west of the island is *Aylmer Sound*, in which there is no danger that cannot be seen.

The *Spray Reef*, on a wash at low water, lies W. N. W. ½ W. 1½ mile from Cape

Mackinac. There is no good anchorage in Ayres Sound, until beyond the *English Islands*, behind which is *Law Head*, and *Law's Harbour*, which is about 200 fathoms wide at the entrance, and vessels can ride within, in from 3 to 6 fathoms, over a muddy bottom. It is sheltered from the W.S.W. by the Doyle Islands, and the approach to it is to the east of them, keeping them aboard, to clear some ledges lying in the entrance of *Sulberry Bay* to the N.E.

Cape Airey is the south point of the *Harrington Islands*, and bears W. $\frac{1}{2}$ S. [S. W. $\frac{1}{2}$ W.] 8 miles from the south point of Little Mecattina Island; and 2 miles S. by W. $\frac{1}{2}$ W. from it is *Black Reef*, of low black rocks above water; and W. by N. $\frac{1}{2}$ mile from Cape Airey is *Major Reef*, awash, which is $\frac{1}{2}$ miles from the *Netagamu Islands*, on the same line of bearing. These islands are small, with a remarkable mound on the largest of them. Netagamu River bears N. by W. $\frac{1}{2}$ mile from the islands, and may be known by the sandy beach, backed with a thick growth of spruce trees on either side the entrance, which is narrow and deep, and $\frac{1}{2}$ mile from which are the falls, 50 feet high. A bar of sand extends a mile from the entrance, and is extremely dangerous to boats; it has 3 feet water over it.

The *St. Mark Islands* lie W.S.W. from Cape Airey, 10 miles distant; they are of bare steep granite, and bold all round. The *Cliff Island* and *Boat Islands* lie to the west of them.

Watacheistic Island lies to the north of these; it is 8 miles long, and above $\frac{1}{2}$ mile broad, and lies in the mouth of a large bay, forming a large sound within it, in which there are several good anchoring places. These cannot be approached without seven miles of dangerous navigation, and therefore should not be attempted but under absolute necessity. To the north of the *St. Mary Islands* are several islets, rocks, and reefs; *Cure Island* is the largest, bearing $\frac{1}{2}$ miles N.N.W. from the north point, and there are thickly scattered rocks both above and below water, between it and the Netagamu Islands. The eastern entrance between Watacheistic Island and the main, is narrow and intricate, but the western entrance is half a mile wide; and though there are several rocks and ledges in it, yet it can be safely sailed through with proper care; but there is no good anchorage on the route to, or outside either entrance to Watacheistic.

St. Mary Rocks are four dangerous ledges, just under water, bearing $\frac{1}{2}$ mile, N. and S.; the southernmost bearing S.W. $\frac{1}{2}$ S. $\frac{1}{2}$ miles from the S.W. entrance of the Boat Islands, W.S.W. $\frac{1}{2}$ W. and 6 miles from the S.W. extreme of the *St. Mary Islands*. The Tender Rock is small and awash; it lies N. by W. $\frac{1}{2}$ W. a mile from the northernmost *St. Mary Reef*, and 2 miles S. $\frac{1}{2}$ W. from the westernmost of the Middle Islands, which lie within the Boat Islands, between them and Watacheistic.

Between the Middle Islands and Wapitagan, the coast is broken into coves, and lined with islets and rocks innumerable, among which nothing but a very small vessel, perfectly acquainted with the coast, could find her way.

The *Etanawin River* enters the sea at $\frac{1}{2}$ miles N.E. from Wapitagan. It is rapid, and there is a trading and salmon-fishing post at its mouth.

Mistassini Rock is a remarkable block of granite, resembling a mortar, and sometimes called the Gun by the fishers. It is an excellent guide to the eastern entrance to Wapitagan, from which it is distant three quarters of a mile to the westward.

Smithmakers Ledge lies S. by W. $\frac{1}{2}$ miles from the Mistassini Rock, West [S.W. $\frac{1}{2}$ W. $\frac{1}{2}$ W.] 9 miles from *St. Mary Rocks*, and $\frac{1}{2}$ miles S.E. $\frac{1}{2}$ E. from *Cape Whittle*. The course from this dangerous reef to *Greenly Island*, near the entrance of the Strait of Belle Isle, is E. $\frac{1}{2}$ N. [N.E. by E.] distance 128 miles. It is a small rock, which is never entirely covered in moderate weather; the extent of the reef around it is 130 fathoms E. and W. and 50 fathoms N. and S., and there is no danger near it. The soundings are very irregular round it.

WAPITAGUN HARBOUR is a long narrow channel between the outer islands of Wapitagan, which are of bare granite, and appear as but one island, and Wapitagan Island to the northward of them, and is completely sheltered; the western entrance to the harbour is sharp round the western extremity of the outer Wapitagan Islands,

between 24 and 40 fathoms. There is more than 50 fathoms of water in some parts between these banks and the shore. Cod-fish are often caught in abundance on these banks, principally by American schooners.

Seen from the distance of 4 or 5 leagues, the coast presents an outline so little diversified, that it is nearly impossible to distinguish one part from another; and it is only when a vessel approaches within 4 or 5 miles from the outer rocks, that its broken and dangerous nature becomes apparent; and although there are few coasts more dangerous, either to a vessel unacquainted with its nature, or unaware of its proximity on a dark night, or thick fog, yet with the assistance of the chart, due caution, and a constant use of the deep-sea lead, it may be approached with safety; and a vessel may even stand close in to the outer rocks and breakers on a clear sunny day, provided there be a trusty person aloft to look out for shallow water, for the bottom can be seen in 4 or 5 fathoms of water.

The coast between Natashquan and the Mingan Islands is low near the sea, rising a short distance back into mounds and ridges, but nowhere exceeding 400 feet in height. It is composed of primary rocks, with the exception of a sandy track, 10 or 12 miles west of Natashquan. The sandy tracks are always thickly wooded with spruce trees, and the country generally is here less bare than it is further to the eastward.

CAPE WHITTLE.—From Cape Whittle to Natashquan Point, the bearing and distance are N.W. by W. $\frac{1}{2}$ W. [N. $\frac{1}{2}$ S.] 83 miles. Off the Cape to the S. and W. are several small rocks, above and under water, the outermost of which, the *Whittle Rocks*, covered at half-tide, are $2\frac{1}{2}$ miles distant from it.

Wolf Island is larger and higher than the outer islands usually are, and is $6\frac{1}{2}$ miles N.W. by W. of Cape Whittle, and between them is *Wolf Bay*, which is 6 or 7 miles deep. Between *Wolf Island* and the Cape, there are numerous rocks and ledges, with intricate and deep channels, rendering the approach to the bay very dangerous; but there are no dangers that do not show.

Coacocha Bay, the next to the westward, is the only place affording anchorage to large vessels upon this part of the coast. It is not at all difficult of entrance, although the number of islets and rocks in every direction make it appear so. There is an excellent harbour called the *Basin*, in the head of the bay, and another formed by an arm running in to the E. by N. named *Tertiary Shell Bay*, which equally safe. Further out than these harbours, the bay is more than half a mile wide, and quite sufficiently sheltered from the sea, for the safety of any vessel with good anchors and cables.

The entrance to the bay is formed on the east by *Wolf Island* and *Outer Islet*, lying one mile S.W. of *Wolf Island*, and on the west by *Audubon Islet*.

The **GRANGE ROCK** is a dangerous outlying shoal, which was discovered by Captain W. Grange while commanding the mail screw steamer *North America*, 27th September, 1868, which struck on it at 1:30 p.m. of that day in very fine weather. The Admiralty Survey showed a depth of 47 fathoms near the spot, and therefore its existence was entirely unsuspected. A subsequent examination by Captain Orlebar, R.N., showed it to be the shoalest part of a narrow ridge of rocks $\frac{1}{2}$ mile long in a W.S.W. direction. The 15-foot spot bearing from *Outer Islet* S.W. by S. $1\frac{1}{2}$ miles. It is the easternmost of three dangerous ledges off the entrance to *Coacocha Bay*.

At 2 miles W. by N. $\frac{1}{2}$ N. from *Outer Islet*, and 2 miles N.W. $\frac{1}{2}$ N. from *Grange Rock*, is the *South Breaker*, with less than 12 feet water; and $2\frac{1}{2}$ miles N.W. by N. from this, and $2\frac{1}{2}$ miles west of *Point Audubon*, is the *S.W. Breaker*, with only 3 feet water; the channel between them is clear and deep. To enter the bay, leave *Outer Islet* and the rocks to the north of it, 300 fathoms to the eastward, and when abreast of these rocks, a chain of low rocks, which project to the S.W. of *Emercy Island*, will be seen right ahead. Bring the point of this chain to bear N.E. $\frac{1}{2}$ N. when it will appear on with the extreme point of the mainland, on the N.W. side, near the head of the bay, and run in on this mark, leaving some rocks, which lie 600 fathoms off

the east side of Audubon Islets, to the port, and then haul to the northward & N.W. 1/2 E. 3 miles from Outer Islet, and when up to them, the bay is open before you, and clear of danger. The further in, the better the ground, and the less the swell with S.W. winds, which are the only winds that send any swell into the bay. Tertiary Shell Bay is quite clear, excepting a small rock, one quarter of a mile within the entrance, which you must leave on the starboard hand; within it is perfectly landlocked, with from 5 to 11 fathoms, muddy bottom.

The Basin, lying to the north of Tertiary Shell Bay, is entered by leaving the latter to the east, and continuing the course till within half a mile of the island, at the head of the bay. Then steer over to the eastward, towards that island, to avoid a shoal of boulder stones, extending 200 fathoms off the west side of the bay, leaving a deep channel between it and the island, 100 fathoms wide. Leave the island 50 fathoms to the eastward, and as you pass through, the water will deepen from 9 to 19 fathoms, as soon as you are past the inner end of the island, when you must haul to the N.W., into the mouth of a small bay, anchoring in 8 fathoms, over mud, and perfectly sheltered. On the east side of the entrance of the river, is a house occupied for fur-trading and salmon-fishing.

Olomanoshebo River, called also by the Canadians, La Romaine, is a considerable river, but very shoal, and there is a trading-post on the east side, but which cannot be seen from the sea. It lies 4 leagues westward of Copacacho, and the coast between is formed of innumerable islets and rocks.

Treble Islet and the Loon Rocks lie to the westward, the latter always visible, and 3 miles from the mainland, and are the outermost danger on this part of the coast.

Wash-shooctai Bay is 10 miles west of Olomanoshebo; off its entrance are several small rocky ledges, that make it very difficult of entrance. Three miles from Cloudberry Point, the western point of the bay, the bay contracts to a very narrow inlet, with several rocks and islets in it; 8 miles above this is a trading-post of the Hudson's Bay Company.

Musquarzo River, another post of the Hudson's Bay Company, is 4 miles westward of Cloudberry Point, and is situated 3 miles within the west point of a bay full of small islets and rocks, becoming narrow and rapid just within the entrance. It will be known by the houses which are on the east side of the entrance, and also by a remarkable red and precipitous ridge of granite, about 200 feet high, about 2 miles to the west of the river.

KEGASHKA BAY is a wild place, safe in fine weather only; the bottom is sandy, bad holding-ground. It lies 5 1/2 miles westward of Musquarzo Point, between Curlew Point, which must not be approached within half a mile, and Kegashka Point, on the west, 8 miles from Curlew Point. Kegashka Point is an island nearly joined to a rocky peninsula, which is distinguished from all other islands on this coast, by being partly covered with spruce trees. A chain of small islets, wide apart from each other, afford very indifferent shelter from the prevailing southerly winds, and the heavy sea, which they roll in upon the coast. The best berth is in the S.W. corner of the bay; the vessel must be moored with an open hawse to the eastward, and have a third anchor on shore to the S.W., so as to be able to haul close in under the point in the S.W. and southerly gales; her bows will then be within 15 or 20 fathoms of the rocks, and the spray of the sea, breaking on the Point, will reach her bows.

To enter the bay, the best channel is between a small and low black islet, lying between Green Island (which is covered with grass, three-quarters of a mile eastward of Kegashka Point) and Kegashka Point. This channel is 170 fathoms wide, and is deep, and is quite clear; the only direction necessary when coming from the westward, is to give the south extremity of Kegashka Point a berth of a quarter of a mile, or to go no nearer than 8 fathoms, then running along the east side of the point, which is quite bold, leaving all the islets on the starboard hand. Three-quarters of a mile on the N.E. 1/2 N. course, will bring you to the narrow channel

before mentioned; haul round the point to the north-westward, at the distance of half a cable, and when within it, anchor as before stated. In coming from the east, give Curlew Point a berth of half a mile, and run N.W. $\frac{1}{2}$ N. $3\frac{1}{2}$ miles, till Kegashka Point bears north, and then proceed as before directed. The roar of the surf upon the rocks and reefs in every direction, after a heavy southerly gale, and on a still night, is deafening. The white spray, glancing in the light of the moon, or of the Aurora Borealis, which is very brilliant upon this coast, is beautiful and grand. These sounds and sights, together with the rolling of the vessel, from the side-swells round the point, which take her on her beam, are quite sufficient to keep every one on the alert in such a place. Only one vessel can be secured in this harbour as above; there is not room for more.

Kegashka River, another fishing station of the Hudson's Bay Company, is 3 miles west of the bay, and only affords shelter for boats.

NATASHQUAN POINT lies 16 miles westward from Kegashka River, the coast between being a line of sandy beaches in front of sandy cliffs covered with spruce trees.

Two miles east of the point is **Mont Joli**, which is merely a slight elevation of the ridge, rising to about 100 feet high. It is only remarkable as being the western limit of the American fishery; for by convention with the United States, of 20th October, 1818, the inhabitants of the said States, renouncing previous claims, have, for ever, in common with British subjects, the liberty of taking fish on the southern coast of Newfoundland, between Cape Ray and the Ramea Isles, and on the western and northern coasts, from Cape Ray to the Quirpon Isles; also on the shores of the Magdalen Islands, and on the coasts, bays, harbours, and creeks, of Labrador, from Mont Joli through the Strait of Belle-Isle, and thence northward, indefinitely, along the coast, but without prejudice to the exclusive rights of the Hudson's Bay Company; and, the fishermen of the United States have liberty, for ever, to dry and cure fish in any of the unsettled bays, harbours, and creeks, of the southern parts of Newfoundland, above described, and of the Coast of Labrador, but so long as unsettled only, without previous agreement with the inhabitants, &c.

From Natashquan Point, the east point of Anticosti bears S.S.W. $[S. \frac{1}{2} W.]$ 57 miles, and $1\frac{1}{2}$ mile S.W. from Natashquan Point there is a small 4-fathoms cod-bank, upon which, as upon other banks to the eastward of the point, which lie from 8 to 11 miles off shore, there are sometimes large quantities of cod taken.

Natashquan River is on the west side of the point, and enters the sea at 2 miles north-westward from its south extremity. The mouth of the river, between low, sandy points, is fully a mile wide, but is filled by a low, sandy island, having narrow channels on each side; the southern of which has a depth of from 6 feet to 9 or 11 feet, according to the tide, and there is the same depth within, where there is a Hudson's Bay Company's Post.

Little Natashquan Harbour lies $3\frac{1}{2}$ miles N.N.E. of the river, and is only fit for small vessels; and from its convenience and proximity to the excellent fishing grounds, it is of great service to the fishing vessels.

The entrance to it is between some islets on the east, which lie near the mouth of the Little Natashquan stream, the westernmost of which is much the largest, and on the western side is a rather high and round-backed islet of grey granite, with a wooden cross on it. Off this islet a reef extends S.W. by S. rather more than half a mile. Between the two sides of the entrance, is a central reef, part of which always shows, and which is bold-to, on its east and south sides; the other sides must have a berth in passing them. To enter the harbour, having arrived in 12 fathoms at half a mile distant from the harbour, and made out the islets at the entrance, bring the west point of the longer island on the east side, to bear N.E. by N., and the islet with the cross on it will bear N. by E. $\frac{1}{2}$ E.; and then steer for the latter, till abreast of the outer part of the reef to the westward, and then bear sufficiently to the eastward to pass on either side of the central reef, keeping clear of the shoal water on its north and north-east ends, and anchor in the centre of the harbour in 4 fathoms, with the

rock of the central reef bearing S.S.W. $\frac{1}{2}$ W. 180 fathoms off, and the cross N.W. by W. $\frac{1}{2}$ W.

Washtawooka Bay is an intricate and dangerous place, with shelter for shallops and boats. It is 5 miles N.W. of Little Natashquan and $3\frac{1}{2}$ miles eastward of *Agawanus River*, a large stream, the approach to which is very dangerous. Five miles north-westward from this is *Nabesippi River*, which is much smaller, and will only admit boats in fine weather. On the west bank, a short distance within the entrance, stands a house and store, a trading post of the Hudson's Bay Company.

To the west of this, between it and the Mingan Islands, there are several rivers and small bays, which are so full of rocks and small islets, that no written directions for them would be of any avail.

Watcheshoo Hill is of granite and 127 feet high, bare of trees, 18 miles N.W. by W. of Nabesippi, and 14 miles E.S.E. of St. Genevieve Island; and 6 miles inland, north from it, is *Saddle Hill*, 374 feet high; these are remarkable, and serve to point out the situation of a vessel at sea. There is a fishing post of the Hudson's Bay Company here in a cove to the westward of the rocks.

Appesletat Bay is 3 miles from the S.E. point of St. Genevieve Island, the easternmost of the Mingans. It is of no use to vessels, as it is crowded with ledges and shoals.

MINGAN ISLANDS.—These are a chain of limestone islands, of moderate height, perhaps nowhere exceeding 300 feet above the sea. They are separated into two divisions by Clearwater Point, the easternmost of which has been called the Esquimaux Islands; but besides that the island, properly so called, belongs to the other or western division, there is another group bearing the same name on the coast to the eastward. They will therefore be considered as all comprised within the title of the Mingan Islands.

Their general character, in nautical language, is low. They are bold and frequently lofty on the north, east, and west sides, low and shelving toward the south, in which direction the reefs and dangers exist. They possess very little soil, but nevertheless are thickly wooded with spruce, birch, and poplar, on the side toward the mainland; though toward the sea barren tracts often occur.

Supplies of wood and water can readily be obtained from the principal islands; wild berries are abundant in their season, and so are different kinds of wild fowl. Quadrupeds are scarce, but there are plenty of seals on the limestone reefs, and a few cod-fish off the coast.

There are 20 islands in all, extending about 43 miles from St. Genevieve on the east, to the Perroquets on the west end of the chain. Of these, Large Island is the largest, as its name implies. It is about 10 miles in circumference; Hunting Island is nearly as large, and Esquimaux Island not much smaller. The northern points of these islands are nowhere more than $3\frac{1}{2}$ miles from the mainland; the southern points never more than 6 $\frac{1}{2}$ miles.

The mainland is of low granite hills; St. John's Mountain is the highest part of the chain in the neighbourhood, 1416 feet above the sea. Toward the eastern end of the islands, the main becomes very low, the coast of sand and clay, and thickly wooded, the hills being very far back in the country.

The tides are not strong among the islands, perhaps never exceeding a knot, excepting in the very narrow channels; it rises about 6 feet in spring tides.

St. Genevieve Island is the easternmost of the group, and is about 5 miles in circumference. On the mainland, 2 miles N. $\frac{1}{2}$ E. from the bluff N.E. point of the island, is *Mount St. Genevieve*, an isolated table hill, 332 feet high, marking, with the N.E. point of the island, the position of the *East Channel*, between the island and the main.

In approaching this island, there are two dangers to be avoided, the *Saints*, two low bare rocks, half a mile to the south of the island, leaving a foul channel of 5 fathoms between them and the island, and the *Bowen Rocks*, which lie two-thirds of a mile

sunder; the *North-western Rock* of 3 feet, $1\frac{1}{2}$ mile E.S.E. $\frac{1}{2}$ E. from the *Eastern Saint*; the *South-east Bowen Rock*, with 6 feet least water, two-thirds of a mile S.E. $\frac{1}{2}$ S. from the N.W. Rock, and S.S. by E. $\frac{1}{2}$ E. $1\frac{1}{2}$ mile from the *East Saint*, which will be just open to the northward of the *Western Saint*; the whole of this dangerous part should be avoided by vessels.

ST. GENEVIEVE HARBOUR is on the N.W. side of the island, between it and the main, and it may be entered either by the *East Channel*, or by the *Saints Channel*, between St. Genevieve Island and Hunting Island, to the west.

To enter by the *East Channel*, when at least 3 miles off the island, in order to clear the *Bowen Rocks*, bring the N.E. point of St. Genevieve in one with *Indian Point*, which is a low wooded point of the main, forming the east point of *Pillage Bay*, bearing N.W. by N., and standing in on this course will leave the *Bowen Rocks* half a mile to westward, and when the S.E. point of St. Genevieve and the *West Saint* come in one, change your course a little to the northward, to clear a flat shoal extending 300 fathoms from the east side of the island. Give the N.E. Point a berth of a cable's length, and passing close to the shingly north point of the island, bring up in 10 fathoms, half-way between that point and *Anchor Island*, on the N.W. side of St. Genevieve.

To enter by the *Saints Channel*.—Keep at least 5 miles off the coast of St. Genevieve, so as to be outside of the *Collins Shoal* of 15 feet; it is a small patch of rocks, lying $2\frac{1}{2}$ miles south from the S.E. point of *Hunting Island*. The marks on this dangerous shoal are the east point of St. Genevieve, just open to the eastward of the *Western Saint*, bearing N.W. $\frac{1}{2}$ N., and the north point of *Wood Island*, on with the south side of the *Garde Rock*.

Being outside this shoal, bring the west points of St. Genevieve Island and *Anchor Island* in one, bearing north, and run in on this leading mark, until the north sides of the two *Saints* come in one, bearing E.S.E. $\frac{1}{2}$ E.; then steer upon this leading mark, to clear the reef extending 280 fathoms off the S.W. point of St. Genevieve, until the east side of *Mount Genevieve*, seen over the sandy S.E. point of *Anchor Island*, comes in one with the N.W. point of St. Genevieve Island, bearing N.N.E. $\frac{1}{2}$ E. Then bear to the north, which will take through the centre of the channel between St. Genevieve Island and *Hunting Island*, and then proceed to the harbour round *Anchor Island*.

Wood and water may be obtained, and the whole space between the islands and the main is well sheltered, and will accommodate a great number of vessels of the largest class.

BETCHEWUN HARBOUR lies to the west of that of St. Genevieve, and between *Hunting Island* and *Partridge Point*, the western point of *Pillage Bay*. One entrance to this harbour is through the *East Channel*, before described; but if, instead of proceeding to St. Genevieve, this is made for, you must pass to the northward of *Anchor Island*, which is quite bold on that side, when the entrance will bear W. by N., between the north point of *Hunting Island*, a clifty mound, and *Partridge Point*, on the N.E. side of which is *Mount Partridge*, a wooded, steep-sided hill, which is easily recognised. You must pass close to the north point of *Hunting Island*, to avoid a shoal, extending one-fourth of a mile off *Partridge Point*; and when within the entrance, steer for a low islet, in the centre of the harbour, bearing W. by N., and anchor one-third of a mile from it.

The *Saints Channel*, before described, is another entrance; and when at its northern part, bear along the N.E. side of *Hunting Island*, which is quite bold, instead of proceeding east to St. Genevieve.

On the west of *Hunting Island* is *Puffin Bay*; and *Charles Island*, forming its western side, is $3\frac{1}{2}$ miles from *Hunting Island*. It is 3 miles long and $1\frac{1}{2}$ wide, and about 200 feet high. On its north side is **CHARLES HARBOUR**, which is narrow, but perfectly secure, with a depth of from 4 to 6 fathoms, with mud bottom.

To enter *Charles Harbour* from *Puffin Bay*, bring the N.E. point of *Charles Island*, which is high and clifty, to bear N.W., then steer for it, rounding it at a distance of

160 to 180 fathoms, bearing to westward into the harbour. To enter from Trilobite Bay, to the N.W. of the island, and which affords excellent anchorage, sheltered from all but the south, give the N.W. point of the island a berth of from 40 to 140 fathoms, and bear round S.E. by E. into the harbour.

CLEARWATER POINT is low, but the shoal water does not extend above one-quarter of a mile south of it. Its S.W. extremity is in lat. $50^{\circ} 12' 35''$ and long. $63^{\circ} 27' 41''$, and with *Ammonite Point*, 2 miles to the east, it forms a promontory, dividing the Mingan range.

One mile and a half due west from Clearwater Point is a rocky 3-fathom shoal, and there are three others with 2 fathoms, lying to the northward of the first, and in a line from the point towards Walrus Island; the outer and westernmost being rather more than 2 miles from the point. The leading mark for passing outside these shoals is, the south points of Gull and Fright Islands in one, bearing N.W. by W.

Westward of this point are *Walrus Island* and *Sea Cow Island*, lying close together in a N.E. direction; off the S.E. point of Sea Cow Island the reef extends three-quarters of a mile to the southward, and off Walrus Island for 200 fathoms.

ESQUIMAUX ISLAND lies to the west of these, and is about $2\frac{1}{2}$ miles long, and $1\frac{1}{2}$ wide; off its S.E. point is Gull Island, half a mile distant, but no passage between; it is bold to. On the S.W. side of Esquimaux Island there is a shoal extending towards Fright Island.

ESQUIMAUX HARBOUR is on the north side of the island, between it and the main; the depth is from 5 to 15 fathoms, sandy bottom, and it is nearly $1\frac{1}{2}$ mile long, in a N.W. $\frac{1}{2}$ W. direction, between the N.E. and N.W. points of the island, which shelter it well, if vessels anchor well over toward the island. The best channels to it are between Walrus Island and *Green Island*, which lies one-third of a mile E.S.E. from Esquimaux Island, on the east, and between *Fright* and *Quin Islands*, and *Niapisca Island*, on the west.

The east passage, the best with easterly winds, is three-quarters of a mile wide, and is clear and deep; and it is only necessary to keep the middle of it, bearing north towards the N.E. point of Esquimaux Island, which will bear in the centre of the channel; and haul round it, at a cable's length off, to the N.W. into the harbour.

The west channel, between Niapisca Island and Fright Island, is preferable to that between the latter and Esquimaux Island, leading north-eastward; having no leading marks, and reefs extending on either side, it is extremely dangerous, and should therefore not be attempted.

In coming here with a westerly wind, the reefs off the south and east of Niapisca Island must be avoided; to do this, do not open the N.W. point of Fright Island, clear of the south end of Quin Island, until *Moniac Island*, which is $2\frac{1}{2}$ miles N. $\frac{1}{2}$ E. of Niapisca Island, is in sight to the east of Niapisca, when you may bear round into the channel, bearing N.N.E. $\frac{1}{2}$ E. until *Montange Island*, lying next west of Moniac Island, is open of the north point of Niapisca, when you will be clear of the reef on the east of that island; then haul up, to clear the reef which projects half a mile W.N.W. from the north point of Quin Island, until you open the N.E. point of Esquimaux, or the north point of Sea Cow Island, to the northward of Quin Island; and then run in between Quin Island and *Point aux Morts*, towards the north point of Esquimaux Island, and haul round it south-eastward into the harbour. Between Point aux Morts and Esquimaux Point there is shoal water, and to the west of the former there are some small islets, which will be cleared by keeping the N. and N.E. points of Esquimaux Island in one, bearing S.E. $\frac{1}{2}$ E.; if these are opened, before passing as far eastward as Quin Island, the vessel will be ashore.

Quarry Island is the next westward from Niapisca, and is about the same height; it is divided from the latter by a channel with a small islet in it, but no safe passage for shipping. Off its south side there are some reefs extending one-third of a mile.

On its north side is *Quarry Cove*, which is a small land-locked harbour, and easy of entrance; the west side may be kept close in entering, and anchor in the centre in 9 or 10 fathoms.

Large Island is divided from *Quarry Island* by a clear channel 400 fathoms wide, the water being shoal towards *Large Island*, and therefore in passing through it, *Quarry Island*, which is bold to in its northern part, must be kept on board. The island is 4 miles long, and its highest part 200 feet above the sea; it is thickly wooded.

The *Birch Islands* lie 2 miles to the west of *Large Island*. In a line with these two islands, and *Harbour Island* to the northward, is the *Middle Reef*, about a mile south of the *Outer Birch Island*, and within a line joining the south points of *Large* and *Mingan Islands*. A part of it always shows. To clear the eastern side of the shoal water around it, bring the eastern sides of the two *Birch Islands* in one.

Between this reef and *Large Island* is **LARGE CHANNEL**, which is the best channel to *Mingan Harbour* with an easterly wind; and in passing through it, the only thing to be observed is, that the reefs extend to the westward, off the shore of *Large Island*, from 2 to 3 cables' length, as far in as the *Flower Pot Column*, a mile to the northward of its S.W. point, after which the island becomes bold. Further in, the *Birch Islands* form the western side of the channel, at the distance of nearly 2 miles from *Large Island*. The eastern side of the *Outer Birch Island* is quite bold, and the shoal water extends only 150 fathoms off the east end of the *Inner Birch Island*.

MINGAN ISLAND is $3\frac{1}{2}$ miles westward of the *Inner Birch Island*; the channel between, called *Birch Channel*, is all deep water, and is the best by which to proceed to *Mingan Harbour* with westerly winds.

The island is nearly 2 miles long, and nearly 1 mile broad. It is about 100 feet high, and bare of trees. The shoal water does not extend above 300 fathoms off its south point, but to the S.W. and West, the reefs, including the islets, run out nearly 600 fathoms. The island is bold on its north and east sides.

Mingan Patch lies S.W. $\frac{1}{2}$ S., $3\frac{1}{2}$ miles, from the south point of *Mingan Island*, and with the south point of the *Outer Birch Island* on with the north point of *Large Island*; it is a patch of rocky ground, with 9 fathoms least water, yet there is a very heavy swell on it at times.

Perroquet Islands are four small islets, and are the westernmost of the *Mingans*. The easternmost of them are 2 miles distant N. by W. from the centre of *Mingan Island*, and have a reef of flat limestone extending off them three-quarters of a mile to the S.S.W. The *North-western* islet has shoal water off it one-quarter of a mile, both to the east and west, but is clear at the distance of 300 fathoms to the northward.

These islets are low and bare of trees, and are frequented by great numbers of puffins.

MINGAN HARBOUR is, between *Harbour Island*, to the north of the *Birch Islands*, and the main, which is low, and has a fine sandy beach. The harbour is about a mile long and 210 fathoms wide, with plenty of water for the largest ships.

HARBOUR ISLAND is two miles long, and its greatest breadth is not half a mile. Its shore is precipitous toward the harbour, about 100 feet high, and thickly wooded. Off the east and west ends of the island there are reefs extending 240 fathoms from high-water mark.

Northward of the east end of the island is the mouth of the *Mingan River*, off which there is a shoal, dry at low water, extending 700 fathoms from the entrance of the river, which protects the harbour from the effects of easterly winds. The river, turning towards the west, forms a peninsula, on the isthmus of which stand the houses of the *Hudson's Bay Company's* post, which is in charge of a "grand Bourgeois," or chief factor, who preserves a strict monopoly of trade with the Indians. At the salmon fisheries here the fish are very fine, and in abundance.

To enter this harbour from the eastward, bring the N. or inner side of Harbour Island to bear N.W. and the houses ought then to appear fully open their own breadth to the northward of the island. Steer for the houses, thus open, leaving the east end of the island 150 fathoms on your left, and taking care to keep the south side of the sandy point of the main, which forms the western entrance of the harbour, shut in behind the north side of the island; for when they are in one, you will be on shore on the sandy shoal of Mingan River. Proceed till you have arrived at the centre of the harbour, keeping a cable's length off the north side of the island, and anchor anywhere in from 9 to 13 fathoms.

In coming from the westward, run in towards the sandy beach of the mainland, at the distance of three-quarters of a mile to the W. of the island, until the sandy point, which forms the west end of the harbour, comes on with the face of the clay cliffs to the E. of the Company's houses, bearing E. by S., or in 11 fathoms water. Run in upon this bearing along the beach, and give the above sandy point a berth of half a cable, and anchor as before directed.

The northern sides of all the islands westward from Niapisca Island are bold-to, so the Mingan Channel, between them and the main, is clear and safe throughout; on its north side is *Montage Island*, to the north of Quarry Island; the shoals which extend between it and Montac Island to the E., and which are nearly dry at low water, form the northern side of the channel, which it would be better not to approach nearer than at a distance of $1\frac{1}{2}$ mile from the opposite shore, or within 10 fathoms water.

Mingan, as well as Esquimaux Harbour, has this great advantage, that vessels can enter or leave them with easterly or westerly winds.

The following observations on this harbour are by Mr. Jeffery, M.R.N.:

The coast of Labrador, about Mingan, and eastward to the point called Mount Joli, is low, and nothing remarkable appears to point out, to any one unacquainted, the position of a ship. The small harbour of Mingan is well sheltered, with sufficient water for any vessel. Harbour Island, which forms the anchorage, is rather difficult to make out, being low, covered with trees, and very much resembling the coast of the main.

To a vessel bound for Mingan and coming round the west end of Anticosti, I should recommend steering for Mount St. John, which is the highest land on that part, and makes like a saddle. This will lead you about 12 miles to the westward of the harbour, and well clear of the Perroquets, or westernmost of the Mingan Islands. When within a mile and a half of the coast, run along shore, by the lead, until you make out the harbour.

On coming from the eastward, it may be advisable to run inside the islands, into the Mingan Channel, as soon as possible after making the land; any of the channels may be taken, with a little caution, and the lead kept going. When you are through, you will see the houses of the Hudson's Bay settlement: by keeping them their own length open, you will go in clear of the reef off the east end of Harbour Island. It is necessary to be very cautious in approaching the banks on the north side. The island is bold, and may be approached within 40 or 50 fathoms; but you must open the west point on the north shore with the north point of the island, until you are well into the harbour. The anchorage is anywhere off the houses. No supplies of any kind can be obtained, except wood and bad water.

The flood tide sets strongly through between the islands and along the coast to the westward; the ebb in the contrary direction. Lat. of Harbour Island $50^{\circ} 17' 30''$, long. $64^{\circ} 2'$.

RIVER ST. JOHN.—From *Long Point*, north of Mingan Island, a broad beach of fine sand reaches to the RIVER ST. JOHN, the entrance to which lies nearly 3 miles N.N.W. $\frac{1}{2}$ W. from Perroquet Islands; and *Mount St. John*, an isolated saddle-backed hill, 1416 feet high, is 11 miles N.E. $\frac{1}{2}$ N. from the entrance. It is frequented occasionally by fishing schooners, early in the season. At the entrance, between the clay cliffs on the west and a sandy point on the east side, the river is 130 fathoms

wide; it increases in breadth to nearly half a mile immediately within the entrance, and then gradually contracts. The tide ascends it about six miles, and the river then becomes too rapid to be navigated.

There is good anchorage outside the bar, there being three fathoms at three-quarters of a mile from the mouth.

It divides the governments of Labrador and Canada. The E. point of the entrance is in lat. $60^{\circ} 17' 3''$, and long. $64^{\circ} 23' 18''$.

From the River of St. John to *Maggie Point* is W.N.W. 8 miles; and between them is *Maggie Bay*, in which there is good anchorage, in winds off the land. Three quarters of a mile west of the *Maggie River*, which is large and rapid, but of no use to boats, is a rocky shoal, a quarter of a mile off shore.

Ridge Point is $3\frac{1}{2}$ miles W.N.W. $\frac{1}{2}$ W. from *Maggie Point*, and from it there extends a long narrow ridge of rocky ground, with from 4 to 6 fathoms water, for 4 $\frac{1}{2}$ miles to the westward, across a bay, and at times there is a very heavy sea upon it.

Sawbill River is 28 miles westward of the River St. John; it may be distinguished by the clay cliffs immediately within the entrance, and by the peculiar hills on either side of it. It will afford shelter to boats and very small craft, but it can only be entered in very fine weather.

Shallop River is $7\frac{1}{2}$ miles N.W. by W. from *Sawbill River*, and affords shelter only to boats. Off this and *Sandy River*, $2\frac{1}{2}$ miles to the westward of it, there are some rocks, the outermost of which are half a mile off shore.

The coast of this part is impregnated with iron, the black oxide of which is here found abundantly. It has a strong magnetic action on the compass on shore, causing it to vary from $1\frac{1}{2}$ to 29 degrees west; but at the distance of two or three miles this error does not exceed half a point, and at the distance of five or six miles it is insensible.

Manitou River is the next to the westward, $4\frac{1}{2}$ miles N.W. by W. from *Shallop River*. It is the largest on the coast, excepting the rivers St. John and Moisie. It may be readily distinguished from a vessel several leagues off the coast, by two remarkable patches of clay cliff, one of which is close to the eastward, the other about one mile to the north-westward from it. The falls on this river, half a mile from the entrance, are of the most magnificent description. An immense sheet of water rushes over a precipice of porphyry, the height of which is 113 feet.

There is good anchorage off this river, the entrance bearing N.E. $\frac{1}{2}$ E. $1\frac{1}{2}$ mile distant, in 16 fathoms, over mud, and one mile from *Manitou Point*, the nearest point of the shore. Smaller vessels may anchor further in shore, to the westward of the bar. The only danger is a small rocky shoal, bearing W. by N. $2\frac{1}{2}$ miles from the entrance of the river, about three-quarters of a mile off shore.

Bacon River is 10 $\frac{1}{2}$ miles W.N.W. $\frac{1}{2}$ W. from *Manitou River*, but is only fit for boats or very small craft. *Cape Cormorant* lies $1\frac{1}{2}$ mile west of it, and *Blaskowitz Point* is $5\frac{1}{2}$ miles W.N.W. $\frac{1}{2}$ W. from the latter, and between them are the *Cormorant Islets*, off which is *Cormorant Reef*, small and dangerous, lying $2\frac{1}{2}$ miles W. $\frac{1}{2}$ N. from the *Cormorant Cape*. To avoid this, vessels should keep Points *Blaskowitz* and *St. Charles* open of each other, as when in one, bearing W.N.W., the mark is on the reef.

Point St. Charles is in lat. $60^{\circ} 15' 25''$, and long. $64^{\circ} 48' 50''$. It is the eastern point of *Moisie Bay*; *Point Moisie* at the entrance of the *Moisie River* being the western, and 11 miles apart.

Off the point is a dangerous reef, being so bold that there is no warning to the lead: some of the rocks always show, but the outermost patches are always covered; these last lie three-quarters of a mile off, to the S.S.W. from the south extreme of the point, and vessels should take care not to be deceived to the westward of this reef, lest the heavy swell from the S.W., so frequent on this coast, should heave them toward the reef.

Trout River, is on the head of the bay, and is the termination of the rocky shores from the E. and the commencement of the bold sandy beach, which extends 8½ miles S.W. by W. to the River Moisie.

The **RIVER MOISIE** is a larger river than the St. John, but is much obstructed by the sand-bars, which are formed by the great force with which the river descends; there is usually not less than 2 feet least water on the bar. It is very bold to off its mouth; but from Point Moisie, the south point of the river, there is a shoal extends 2½ miles W.S.W. ¼ W. from the point, to the *Moisie Rock*, which is exceedingly dangerous. It is as bold as a wall to the S. and S.W., and can generally be seen in fine weather, from the change in the colour of the water, and from heavy breakers, when there is much sea running.

There is no close leading mark for clearing this rock; but a vessel will be 1½ mile from the edge of the shoal, when the N. side of the Manowin Island is on with the S. point of Great Boule Island.

SEVEN ISLANDS BAY.—The sandy point, which is the eastern point of the entrance of this magnificent bay, is 11 miles westward of Point Moisie. The bay is completely sheltered by the **SEVEN ISLANDS** lying off its entrance, which is 2½ miles wide. A fine broad, bold, sandy beach extends for three miles northward from the east point of the bay, to the entrance of the principal river, near which stands the Hudson's Bay Company's trading post. The houses at this post cannot be seen from the outer parts of the bay, but there is wooden store on the beach, off which vessels usually anchor. Water can be obtained from this river at high tide.

The **Seven Islands** are high and steep, of primary rocks, very thinly wooded, and can be made out from a distance of 7 or 8 leagues, being unlike anything else in the gulf. The easternmost of these islands are the *Great and Little Boule*, the former of which is the highest of them all, its summit being 695 feet above the sea at high water; its south point bears west 9½ miles from Point Moisie. The channel between these two islands is subject to baffling winds, and the flood tide sets strongly to the west, and the ebb to the east, through it; a circumstance that must be attended to in all the channels between the islands.

The *East Rocks*, which are low and bare of trees, lie between Little Boule and the shoal to the N.E.; they are out of the way of vessels, which ought not to go into this embayed place.

The *Little and Great Basque Islands* lie next to the Boules; Great Basque, the inner island, is 500 feet high.

MANOWIN and **CAROUSEL** lie to the S.W. of the Basques; the former is 457 feet high; the latter much lower, and the southernmost of the islands; its south extremity is in lat. 50° 5' 29", long. 66° 23' 35".

The *West Rocks* lie between Manowin and the peninsula, which forms the west point of the Bay of the Seven Islands. They are too small and low to appear as the seventh island, but the peninsula has that appearance when seen at a distance from sea, being higher than any of the islands, and 737 feet above the sea at high water.

There are three obvious channels into the bay, viz., the eastern, middle, and western channels: the eastern, between Great Basque and Sandy Point, is seldom used, having a rock in its centre, which is covered only in high tides. The principal and best is the middle channel, between the Basque Islands on the E. and Carousel, Manowin, and Point Chassé, the eastern point of the peninsula, and off which a reef runs out 120 fathoms from the shore. The course through it is due north, its breadth is 1½ mile, and it is quite free from danger.

The west channel is also quite free from danger, and perhaps in N. or N.W. winds, is preferable, to save heaving; it is between the West Rocks and Point Croix, the south point of the peninsula. This point deflects the ebb tide towards the West Rocks, and this ought to be attended to. The peninsula is quite bold to, and the mid-channel is nearer to it than the West Rocks; it is quite clear, and there are no leading marks, nor are there any required for any of the channels. The ground is not fit for anchor.

ing until well within the bay. Outside the islands the water is extremely deep, and their shores are quite bold to.

The stream of tides in the bay and in the principal channels seldom amounts to a knot; but in the narrow channels it may amount to two knots in spring tides, when accelerated by strong winds. It is high water on the full and change days at ten minutes past one; spring tides rise 9 feet, neaps 8 feet.

From the S.E. point of Caronnel to Cape de Monts, the bearing and distance are S.W. by W. $\frac{1}{2}$ W. [S.W. $\frac{1}{2}$ S.] 60 miles. The coast between is less bold in appearance than that to the eastward, and there are no detached rocks off it.

St. Margaret River is 6 miles N.W. by W. from Point Croix, nearly at the head of St. Margaret Bay; it affords shelter to boats only.

The Cawee Islands lie S.W. by W. $\frac{1}{2}$ W. 16 miles from St. Margaret Point; they are two small hilly islands, nearly bare of trees. Great Cawee Island is the largest and easternmost, and about 250 feet high. Little Cawee Island is a mile to the S.W. of it, and is composed of two islets.

There is a bay on the inner or N.W. side of Great Cawee, in the mouth of which there is anchorage at a cable's length from the island. It is an intricate and dangerous place, but may be of great use as a place of refuge in case of distress. In making for it from the eastward, steer N.W. past the N.E. side of Great Cawee Island, keeping half a mile off, to avoid the shoal off the mouth of the cove, until the point of the main land to the westward opens clear of the north side of the island. When you arrive between the rocks and the island, which you will come to by steering for the point of the mainland, keeping it midway between the north side of the island and the rocks, which lie to the northward of it, haul into the mouth of the small bay, which is on the N.W. side of the latter, and anchor in 7 fathoms at low water. This anchorage may be come at from the westward, by keeping in mid-channel between Little Cawee and the main; but it would be better to pass between Great and Little Cawee Islands, hauling close round the west point of the latter into the anchorage. The tides run through between the island and the main at a rate seldom exceeding $1\frac{1}{2}$ knot, and generally much less.

Lobster Bay is an excellent open roadstead, between Point Sproule, three-quarters of a mile north westward of Little Cawee Island, and the Crooked Islands, three miles to the westward of the point; the head of the bay is occupied by an extensive flat, but there is a small anchorage for the largest ships.

Pentecost River is $1\frac{1}{2}$ mile to the westward of Crooked Island; it would afford shelter to small vessels, but is difficult of entrance. English Point is 7 miles S.W. of Pentecost River, and has a shoal extending off it to the distance of one-third of a mile. It is bold to on the S.E. and east.

EGG ISLAND is 14 miles S.W. $\frac{1}{2}$ W. from Great Cawee Island. It is low and narrow, without trees, and three-quarters of a mile long in a N.N.E. $\frac{1}{2}$ E. direction; off each end of the island a reef of rocks extends, forming a natural breakwater, $1\frac{1}{2}$ mile long, the northern end of which is three-quarters of a mile off shore, and the southern end nearly a mile. Opposite the N. end of the island, the breadth of the channel is contracted by a shoal extending from the main; on the S.W. part of this narrow part is the best anchorage.

The passage to this from the S. and W. is quite bold, and no directions are necessary; but if it be intended to run through between the island and the main, stand northward, to 8 or 9 fathoms, or until English Point is open half a point to the northward of the North Rocks; then steer for English Point, giving the inner side of the North Rocks a berth of a cable's length, until you have passed them, a full quarter of a mile; you may then haul out to sea, going nothing to the southward of S.E. by E. to avoid the N.E. reef.

The tides running between the island and the main are generally from half to one knot, and part of both the stream of ebb and flood passes through the narrow and dangerous three-fathom channel between the island and the North Rocks.

Caribou River is 2½ miles W. by S. from the S.W. end of Egg Island. There are reefs to the S.W. of the entrance for a mile, and extending 600 fathoms from the shore. **Caribou Point** is 8½ miles S.W. by S. from Egg Island, and affords shelter for the pilot-boats, which often look out for vessels here.

TRINITY BAY is five miles further south-westward, and affords excellent anchorage: it is a very valuable stopping-place, in westerly winds, for vessels bound up the St. Lawrence, and at these times pilots are generally found waiting to take vessels upward; but in easterly winds they take shelter in St. Augustine Cove, 1½ mile westward of the cape.

On the N.E. point of the bay are two large rocks. The southern rock lies nearly a quarter of a mile to the southward of the point. A river, which falls into it, will supply fresh water. To anchor, come to at half a mile to the eastward of the west point, on which stands a cross, in from 9 to 5 fathoms, and with the point bearing W.S.W. or S.W. by W. Small vessels may anchor in 3 fathoms, at low water, just within the reef, the western point of the bay bearing S.W. At three-quarters of a mile S.W. from the point on which the cross is placed, is a ledge of rocks, dry at low water, and which should not be approached nearer than to the depth of 4 fathoms.

The coast between Cape de Monta and this bay is indented with small sandy coves, and in the interval are three large rocks, always above water, which will be avoided by not approaching nearer than in 8 fathoms.

POINT DE MONTA, and Lighthouse.—The lighthouse on **Point de Monta** is 5 miles to the south-westward of Trinity Bay. It is a mile and a quarter E.N.E. from the extremity of the cape, and bears S. 62° W. from the outer part of Caribou Point, over which, and eastward of it, the light may be seen. The light tower is of the usual form, nearly white, and 75 feet high, and the lantern is elevated at about 100 feet above the level of the sea, and exhibits a bright fixed light.

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Lighthouse on Point de Monta, West 1 mile.

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Ships from the eastward, approaching the lighthouse, on drawing towards Caribou Point, may bring it to bear W. by S., when they will be in a good fair way, and may, if requisite, advance toward the land, by the lead. But after passing Caribou Point, on drawing toward the lighthouse, they should come no nearer than in 12 fathoms; for thus they will avoid two ledges of rocks, one of which lies E.S.E. from the lighthouse, with only 12 feet over it; the other lies S.W. from the lighthouse, and E.S.E. from the extremity of Cape de Monta, with 16 feet over it. These rocks are not more than half a mile from shore at low water.

When a ship is to the westward of the Cape de Monta, the lighthouse will appear in one with the outermost rocks of the same, and the cape will be in one, bearing E.N.E., and from this line of bearing vessels are in the best fair-way for proceeding up or down the river. You may, if it be required, safely approach the north shore, until the lighthouse bears E. by N.; but when it bears E. by N. it will be time to tack. When bearing east, it will be shut in with the high land, and cannot be seen to the southward of east, at only a mile from the land.

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V.—THE SOUTH SHORE OF THE ENTRANCE TO THE RIVER, FROM CAPE ROSIER TO CAPE CHATTE.

This coast is bold and high, quite clear from dangers, and affords no harbour, or scarcely any shelter for vessels. The water is deep all along, and will not give any warning in approaching the coast, by the lead; it must therefore be guarded against during fogs, or in the night, more especially as the downward current of the river sets over to the south side from Cape de Monte.

The land generally rises from the water's edge into mound high hills at the back, and the whole is covered with trees.

Cape Rosier is about 7 miles to the northward of Cape Gaspe. It is a rugged, rocky point, and the shore to Cape Gaspe is very steep, with high perpendicular cliffs. To the S.W. of Cape Rosier, about a quarter of a mile, is a fine sandy bay, with good anchoring ground, decreasing in depth from 14 to 7 fathoms toward the beach, and sheltered from S.W. to N.W. winds. There are several fishing establishments on it, and in the vicinity.

The Lighthouse on Cape Rosier is 112 feet high, built of white stone, and shows a brilliant fixed light of the first order at an elevation of 136 feet, and is consequently visible 16 miles off. The light is shown from April 1st to December 15th.

Griffin Cove is 4 miles W.N.W. from Cape Rosier. The north part of its entrance is bluff, and it has several houses within it. It will afford shelter to small vessels with a west wind, but it is open to the north. Five miles further is Great Fox River, off which a vessel might anchor in fine weather; it may be known by the extent of the settlement on its banks, particularly on the southern side. A large stone church has been lately erected. At 5 miles N.N.W. of Great Fox River is *Serpent Reef*, the only danger on this coast. It runs out one mile S.E. by E. from *Serpent Point*, its outer extreme in 3 fathoms being $\frac{1}{2}$ of a mile off shore.

Great Pond River or *Anse de l'Etang*, 16 miles N.W. $\frac{1}{2}$ N. from Great Fox River, will afford shelter to shallows; it may be known by a remarkable high, wooded, conical hill on the east side, and by a beach with a few huts and the west. The river issues from several lakes, one of which is only half a mile through the woods from the fish stages. In all the coves hence to the westward, the neat houses of the Canadian fishermen will be seen.

Magdalen River is a considerable stream, and in the bay, at the mouth of it, a vessel can anchor in fine weather, and sometimes schooners warp into the river itself. It is 24 miles from Great Pond and 16 miles from *Mont Louis River*, which is a much smaller stream; the small bay, into which it falls, affords anchorage to vessels nearer the east than the west side.

Cape St. Anne is 26 miles further westward, in the rear of which are the *St. Anne or Stickahoe Mountains*, the highest of which is 14 miles behind Cape Chatte, and is 3970 feet above the sea; it is the highest land in British North America.

St. Anne River is 6 miles west of the cape, and can be entered by small schooners at high water. A few families are settled here, and also at Cape Chatte River, who willingly render assistance to such as require it.

CAPE CHATTE is a remarkable hummock, like a short sugar loaf on a point which is lower than the land about it. Its extremity is in latitude $49^{\circ} 6'$, and longitude $66^{\circ} 45' 19''$. At about three miles to the S.E. of it is a small river of the same name.

The land over Cape Chatte is very mountainous, and is much broken at the top, hence it may be readily known, as there is no land presenting a similar aspect in any other part of the river.

GENERAL DESCRIPTION OF THE RIVER.

THE RIVER,

has no harbour, or will not give any shelter, and is guarded against the river sets in from the north.

It is a rugged, high perpendicular, and a fine sandy bay, the mouth of the fishing establishment.

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THE NORTH SHORE FROM CAPE DE MONTS TO THE SAGUENAY RIVER.

The next projecting point, westward of Cape de Monts, described on page 107, is **Point St. Nicolas**, bearing W. by N. 17 1/2 miles. Three miles N.E. by E. from this headland is **Harbour St. Nicolas**, or **St. Nicolas Harbour**; between these places, and 6 1/2 miles eastward of St. Nicolas, is a little river, called **GOMMET** or **GOOMBOUT RIVER**, where the Hudson's Bay Company have a trading post, and where, therefore, provisions may occasionally be obtained, but it affords no shelter. This place may be known by the fall of the land on the east, and clay cliffs on the west.

ST. NICOLAS HARBOUR.—At the entrance of this harbour vessels may occasionally find shelter from westerly winds. The land about it is mountainous; and, if a ship be to the westward of the harbour, and bearing up for it, the entrance may be distinguished from the circumstance of its having all the land on west dry and barren, the wood being burnt from the mountains; but, on the east side, the mountains are green and covered with trees. To enter, run boldly in, between the burnt cape and the green one, steering North, and the low point, which forms the west side of the entrance, will appear like an island. The eastern side of the entrance is limited by a reef, one-quarter of a mile long, which stretches S.W. from the green cape; opposite to this reef, on the western side, is another, both dry at low water, but the largest is always to be seen. The anchorage is a little to the northward of the stream of the easternmost reef, in from 12 to 6 fathoms.

The distance between the points of the two reefs is about 1 mile; both are bold; 10 fathoms being close to the eastern, and 4 to the western, reef. Small vessels may haul alongside the rock, just within the entrance on the west side, in 10 feet at low water.

At about 100 yards within the cross above mentioned, a bar commences, which extends thence across the entrance, and has only 10 feet over it at low ebb. This part is only two ships' length in breadth at low water, but the harbour widens inward to a large basin, where vessels can lie perfectly land-locked in from 10 to 12 fathoms of water, good ground, and on the S.W. side the water is deep close up to the rocks; this place is, however, a bad outlet for ships bound to the westward, as an easterly wind blows directly in, and the land around being mountainous, there is no getting in or out, in a square-rigged vessel, with canvas set.

Those who proceed to the basin, must keep their canvas set, and borrow close round the point on which the cross is erected; then shoot in as far as they can, and down with the anchor. To warp in, keep the western side on board.

The bank to the southward of the eastern reef, and all along the shore, is very steep; there is a depth of 50 fathoms at about 500 yards from it. Near the reef, in 20 fathoms, cod fish are generally abundant.

At St. Nicolas Harbour the tide flows on the full and change days, at 1 1/2 55". Spring-tides rise 12 feet, neap, 7 feet. The flood, of spring-tides, runs to the westward about two miles an hour, and thus along shore up to the Saguenay River.

English Bay is 11 1/2 miles W.N.W. from Cape St. Nicolas. It affords no anchorage. On its western side is **St. Gille's Point**, opposite the north-eastern point of the Peninsula of Manicougan, and which is the termination of the bold and rocky coast to the eastward of it; while that to the west of it is low and wooded; and this circumstance will enable a vessel to ascertain her position on the coast, whether to the east or west of this part, and of her approach to the dangerous Manicougan shoals.

MANICOUGAN BAY and Shoals.—This dangerous bay is 11 miles W. by N. from Point St. Nicolas. The shore between is bold and rocky; the land high, and

the water deep. The flood-tide sets strongly into the bay, and the ebb strongly out. The land forming the western point of the bay is much lower than any other near it, and may be readily known by its yellowish sand and clay cliffs, with a fine beach, and very flat for more than two miles off.

The east end of the great shoal of Manicougan lies 1½ miles West from Point St. Nicolas. This end is of rocks, terminating in a spit, and dries at low water. The S.W. point of the bay, called Manicougan Point, is 17½ miles W. by S. from Point St. Nicolas. From Manicougan Point the land thence westward trends in a curve, 12 miles, to *Outarde* or *Bustard Point*, at the mouth of the *Outarde River*, and the great shoal borders of the whole, to the distance of 2½ miles from shore. The tide of ebb and flood sets along its edges, but is not perceptible at more than 5 or 6 miles off shore; and on that part, off Manicougan Point, is a great ripple. On the shore, within the shoal, the tides ebb one mile from high-water mark, and heavy breakers are seen on its edges, with high reefs of rocks.

Outarde Bay is to the westward of the Land of Manicougan. It is terminated by *Point Bersimiles* or *Bersimis*, which is sandy and covered with trees, and the whole is lined with extensive and dangerous shoals. Ships, in rounding *Bersimis Point*, should advance no nearer to it than two miles, as the shoal surrounding it is steep-to.

Ships being up to *Bersimis Point* with the wind at west, and flood-tide, may cross over thence to *Father Point*, and engage a pilot for the river. Should the wind be at S.W. by W., keep the north land on board until sure of fetching the point.

In *Outarde Bay* the ebb-tide is slack, and the flood strong. Ships may always get ground in the bay, but should stand in no nearer than two miles from shore.

The *Manicougan*, and *Outarde* or *Bustard*, are very large rivers, but unfortunately their navigation is much interrupted by falls at a short distance from the St. Lawrence. The water of the *Outarde* is entirely white, occasioned by large quantities of impalpable sand and clay being held in suspension; and the vessel, in sailing through it, by displacing the superficial stratum of lighter and fresh water, full of these earthy particles, leaves in her wake a dark blue streak, which may be traced as far as the eye can reach. This sand and clay are the deposit of the rivers, which, in the course of ages, have formed the alluvial peninsula of Manicougan, and also the dangerous and extensive shoals of the same name. The *River Bersimis* is navigable for small vessels as far as ten miles from the entrance, and it can be ascended to the falls, nearly 40 miles, but it would be difficult for a sailing vessel to reach as far.

Jeremie Island is 6 miles westward of *Point Bersimis*, the sandy coast extending between them. On the main, opposite the island, is a post of the Hudson's Bay Company, the houses of which may be seen very plainly from within the distance of 6 miles.

Cape Colombar is 5 miles westward of *Jeremie*, and off it is the *Gulnare Shoal*, discovered by Captain Bayfield in 1830. It is a narrow ridge of granite rock, nearly 2 miles long, parallel to the shore, and having from 2 to 3 fathoms over it at low water.

Baie de Laval is 8 miles westward of *Cape Colombar*. *Laval Island* is in the mouth of the bay, and all within it is dry at low water. Vessels may approach this bay to within 6 fathoms depth, but to the eastward, between *Wild Fox Reef* and the *Gulnare Shoal*, the coast ought not to be kept closer than in 20 fathoms.

Port Neuf is another settlement of the Hudson's Bay Company, the buildings of which are readily seen. It may be known by a range of remarkable clay cliffs, like chalk cliffs, between it and the *Baie de Laval*, the only land of this appearance in the river, and which, therefore, is a sure mark.

Point Mille Vaches is 4 miles S.W. from *Port Neuf*; it is low and sandy, and the shoals off it contract the navigable breadth of the river, between it and *Bioquette*, to 1½ miles. The N.W. reef of *Bioquette* bears from the point S.S.E. & E. 1½ miles.

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To the west of it is the *Des de Mill's Fiches*, which is filled with shoals of sand and rock, the western parts of which are deep and dangerous. The bay extends to the *St. Lawrence* Lake, 12 miles S.W. & W. from the point.

The coast west of this is bold and free from danger, but has no shelter.

THE SAGUENAY RIVER enters the St. Lawrence between Lark Point on the west, and Point Vaches on the east, opposite Red Island, 23 miles westward of the *St. Lawrence* Lake.

This extraordinary river, which was imperfectly known till the late surveys, is as remarkable for the great volume of water which it brings down to the St. Lawrence, as for the enormous depth of its bed, which is fully 100 fathoms lower than that of the St. Lawrence. It comes from the Lake St. John, and at *Chicoutimi*, a trading post of the Hudson's Bay Company, which is 65 miles above its mouth, it becomes navigable, and 6 miles above which, to the rapids, the tide ascends. To *Point Roches*, 67 miles from the St. Lawrence, and 8 miles below *Chicoutimi*, it is navigable for the largest ships; and up to this part there is no danger in the river, the shores consisting of steep precipices, some of the headlands rising more than 1000 feet in height.

The current runs down with great force, the ebb-tide varying from 3 to 5 knots, according to the breadth of the river, which is from two-thirds of a mile to 2 miles. At the mouth of the river, this ebb-tide runs at the rate of 7 knots over *Lark Islet* Spit, and the S.W. extreme of *Point Vaches*.

TADOUSAC, which is in the entrance of the river, was formerly the principal post of the French, for trading with the Indians. It has declined, and now belongs to the Hudson's Bay Company.

The Harbour is off the settlement, a mile within *Point Vaches*, and is well sheltered; but a heavy anchor should be cast close in-shore, on account of the eddies which sometimes set into it from the river.

Across the mouth of the river there is 18 to 20 fathoms, but immediately within, the depth increases to above 100. The current setting strongly over this bar, meeting with the spring ebb of the St. Lawrence, cause breaking and whirling eddies and rippling; and these streams opposed to a heavy easterly gale, cause an exceedingly high, cross, and breaking sea, in which no boat could live. On the flood at such times, there is no more sea than in other parts of the river.

Off the entrance of the Saguenay are several dangerous patches, some of which are named: Off *Lark Point*, which is formed of two clay cliffs, is *Lark Islet*, small and low, but marked by a beacon. It is joined to the land at low water. Opposite this point is *Vaches Point*, easily known by the high clay cliffs. To the N.W. of it is *Brandy Point*, on which is a white beacon. Off *Vaches Point* is reef extending half a mile, and at 12 mile from it is *Vaches Patch*, on which is a black buoy in 23 fathoms.

BRINCE SHOAL.—A small rocky shoal, of some importance in a certain sense, which lies half a mile S.S.E. of the former patch was discovered in a singular manner. In the voyage of His Royal Highness the Prince of Wales to Canada, in H.M.S. *Hero*, she struck on it on August 16th, 1860, as it had been omitted in the Admiralty surveys. Such an accident might have been of most serious consequence. It is here more particularly noticed as a sort of infallibility has been claimed by Admiralty surveyors; and in the similar case of the *Grange Rock*, of which a notice is given on page 96. A published letter would lead the reader to infer that if the vessel had had an Admiralty chart she would have escaped; but in neither of these instances were there the slightest indication of danger on these charts.

The *Parson Shoal* is a small rocky patch, having 3 fathoms of water over it, and is in a S.S.E. direction half a mile from the 4-fathom patch already laid down in the Admiralty charts. *Lark Point* bears from it W. 4 N., and the black buoy on *Vaches* Point N. by W. It is now marked by a chequered buoy.

On the western side of *Brandy Pote* and *White Islet* in line, which clears the *Lark* Reef, lies on this Shoal, *Brandy Pote* should therefore be kept open to the south-

ward of, or just touching White Islet, S.S.W. $\frac{1}{2}$ W., which will lead about half a mile to the eastward of the shoal.

BUOYS.—The entrance of the Saguenay is buoyed as follows:—To the westward of the entrance, the *white* buoy on the outer or southernmost extreme of Lark Reef is moored in $4\frac{1}{2}$ fathoms, with Red Island lighthouse bearing E. $\frac{1}{2}$ S., and the diamond beacon on the north-east of Tadousac Harbour in one with the beacon on Lark Islet. On the eastern side of the entrance, on Vaches patch, a *black* buoy lies in $2\frac{1}{2}$ fathoms, with the beacon on Ilot Point just open to the westward of the beacon on Rouge Point; and Lark Point just open to the southward of the beacon on Lark Islet. On the *Prince Shoal* off the Bar Reef a *chequered black and white* buoy lies in 3 fathoms, with the north-west Company's house at Tadousac just shut in behind Rouge Point.

To enter the Saguenay, have the beginning of the flood, and sufficient daylight to reach Tadousac. Winds from the S.W. southward to N.E. will take vessels into the river with the flood, but the N.E. is most to be depended on; but whether you approach from the S.W. or N.E., bring the western points of the Brandy Pots and White Island in one, and open to the southward of Fare Island, bearing S.S.W. $\frac{1}{2}$ W. Run upon this mark (and it will lead you well clear of the Vaches Patch and Lark Reefs) until *La Boule Point* comes in one with *Point Ilot*, bearing N.W. by W. $\frac{1}{2}$ W., which will clear the S.W. side of Point Vaches Reef; Point Ilot being the rather low N.W. point of the Harbour of Tadousac, and La Boule, a high and round-backed hill, forming a steep headland, 4 miles above Tadousac, and the extreme point seen on the same side of the river.

Haul in for the last-named leading mark, keeping the S.W. extreme of La Boule just open, which will clear all dangers; and when as far in as *Point Rouge*, bear towards the trading post, into the harbour, dropping your outer anchor in 16 fathoms, and the inner one close to, or within, low water mark.

THE SOUTH SHORE BETWEEN CAPE CHATTE AND GREEN ISLAND.

Between Cape Chatte and Matane, in a distance of 11 leagues, the shore is all bold and bound with rocks.

In proceeding up the river, after passing Cape Chatte, the first place of remark is *Matane River*, distinguished by a large square white house, and a long barn level on the top. This place may be known from within the distance of 3 miles, by its houses and a bluff cliff, close to the entrance on the western side. Many pilots live here. The River of Matane admits small craft only. The chief settlements occupy both banks, and extend about one mile from its mouth. The two mountains, called the PAPS OF MATANE, stand inland to the westward of Matane River, and form the mark for this part of the coast, although Captain Bayfield says they are difficult to make out. At $7\frac{1}{2}$ leagues to the westward of Matane River, is the western point of LITTLE METIS BAY, a spot surrounded by rocks, excepting the entrance, and in which small vessels may find shelter from westerly winds, in 3 fathoms at low water. The coast from Matane to Little Metis is entirely barren. *Little Metis* is situate on a long, low, flat, and rocky point, with several white houses, extending about a cable's length to the N.E. This is noticed as a guide to the anchorage at *Grand Metis*, which is 5 miles farther westward. On opening the bay (say close in-shore), a square house will be first observed, near the water side; a mile farther, in the S.W. corner, up the bay, in the same view, will be seen the upper part only of a house, which is the establishment of Grand Metis.

A vessel may close in with Little Metis Point into 6 or 7 fathoms of water, and run for Grand Metis, by the lead, in from 5 to 8 fathoms. Should the vessel be turning up, on the north shore, or in mid-channel, *Mount Camille*, which will be seen, should be brought to bear S.W. by S., which will lead from sea to the bay.

Mount Camille is 6½ miles inland from the nearest shore. Its summit is 2036 feet above the level of the sea.

The cove of *Grand Metis* is nearly dry at low water. A small vessel may bring up here in 3 fathoms, with the wind from S.W., but with a west it affords no shelter. The points that form these coves are very low, and cannot be distinguished beyond the distance of 2 leagues. *Great Metis* has a large rock in the middle of the cove. *Little Metis* has none; and the latter may be known from the former, by observing that a round bluff rock lies at its entrance, on the eastern side; not far from which, on the east, is a small hill on the mountain, in the form of a sugar-loaf.

The tide here, on the fall and change, flows at ten minutes past two o'clock, and rises from 12 to 14 feet.

With a ship of great draught it is advisable to lie in 6 fathoms at low water, with the house at the east side of the *River Metis* open to the eastward of the inlet in the bay, so that the river may be seen between them. The high land of *Bio* will then be just clear of *Cape Orignal*; some of the houses of *Little Metis* will be seen, and *Mount Camille* will bear S.S.W.; in such a mooring the swell is broken before it comes in by the shore. The ground, being clay, is excellent for anchorage; and, with one anchor to the eastward, and another to the westward, the vessel will ride in perfect security.

From hence, along the shore, will be observed, at great distances, the small white houses of the inhabitants, which are mostly occupied by pilots or fishermen, who have cultivated small patches of land around them. Occasionally, when, from a wet summer, the harvest of the westward has failed, these small farmers reap a benefit by the greater backwardness of their seasons.

Between *Great Metis* and the next inlet, named *Cock Cove*, will be seen the high land of *MOUNT CAMILLE*. The bearing and distances between the Coves are W. by S. 3½ leagues; and, from *Cock Cove* to the projecting land of *Father Point*, W. ½ S., 4½ miles.

Father Point bears from the west point of *Grand Metis Bay* W. by S. 14½ miles. It is low, covered with houses, and the regular rendezvous of the pilots, many of whom reside there.

Light.—A light tower, of octagonal shape and painted white, is erected on the extremity of *Father Point*. It exhibits, at 43 feet above the level of high water, a fixed red light, which in clear weather will be visible from a distance of 10 miles, when bearing between W. by S. ½ S., round south, and E. ½ N. It is lighted from 10th April to 10th December, each year.

Rimousky Road.—The eastern point of *Barnaby Island* is 3 miles W. by S. from *Father Point*, and between them is the anchorage or Road of *Rimousky*, where vessels ride throughout the summer to take in cargoes of lumber. They lie moored in 4 or 5 fathoms at low water, with excellent holding ground, and sheltered from W. by N. round by south, to E.N.E. The best sheltered berth is with the eastern point of *Barnaby Island* bearing W. by N., *Rimousky Church* S.S.W. ½ W., and *Father Point* E.N.E. in 4 fathoms at low water spring tides over mud bottom. Small vessels can anchor farther to the westward in 3 fathoms at low water, with the east end of the rocks off the eastern point of *Barnaby Island*, bearing N.W. by W., and distant a quarter of a mile. The reef does not extend above a quarter of a mile off the eastern point of *Barnaby Island*, and may be passed by the lead in 4 fathoms. A landing pier has recently been built at *Rimousky* 2,150 feet long, and having at its end a depth of 6½ feet at low water springs.

Barnaby Island presents nothing remarkable. A reef extends from each end of it, under which small vessels may find shelter. Between the island and the main the bank is dry at low water, but there is a depth of 14 feet over it at high water of spring tides. With neap tides only 9 feet. At the little *River Otter*, 6 miles S.W. from *Barnaby Island*, fresh water may be obtained.

At a distance of 3 miles to the westward of the *Otter*, the coast forms the *Harbour* of *St. John*.

of *Old Bic*, which affords shelter to small vessels from westerly winds. Two round islets mark the eastern side of it, and it is one mile from them to the western side of the harbour. The anchorage is midway between these and the west side, in 3 fathoms, the western point bearing west.

Nearly 3 miles west from Bic Harbour, and at the same distance south from Bic Island, is *Cape Arignole*. From this cape a reef extends one mile E. by N.

The high land of Bic lies S.W. by S., $2\frac{1}{2}$ miles from the N.W. extremity of the cape; it is very remarkable when seen up or down the river, as it consists of high and narrow ridges, parallel with the coast, the summit being 1234 feet above the sea.

BIC ISLAND is of moderate height, and covered with trees. This island is 3 miles in length, from east to west, and reefs extend from it to the east, west, and north. At three-quarters of a mile from the north side, is the islet called *Bicquette*, which is also woody. *Bicquette* is quite bold on the north side, and there are 30 fathoms at a musket-shot from it; but within the extent of a mile and a quarter to the west of it is a chain of reefs, which are dangerous. Between Bic and *Bicquette* there is a passage, but it is intricate; there are no marks for it, and it will be best understood from the chart.

A Lighthouse has been erected on the west end of the island of *Bicquette*, in the River St. Lawrence, and a revolving light of the first class was shown thereon for the first time, on the 9th of August, 1844; and the light is shown every night from sunset to sunrise, from the 1st April to the 15th December, in each year. The tower is 70 feet high, and the light stands 130 feet above the level of the sea, the north-west reef bearing from it due West, $1\frac{1}{2}$ mile. This light will revolve at regulated intervals of two minutes.

A nine-pounder gun is placed near the lighthouse, and will be fired every hour during foggy weather and snow storms.

The *S.E. Reef* extends $1\frac{1}{2}$ mile E. by S. from the S.E. point of Bic Island, and the channels between the rocks and the island should not be attempted.

The *N.E. Reef*, a small patch of black rocks, lies N.W. $\frac{1}{2}$ W. above a mile from the former, and 400 fathoms N.E. by E. from the N.E. point of the island.

The *West Grounds of Bic* are an extensive flat of slate, which partly dries at low water, the outer point of which is three-quarters of a mile W. $\frac{1}{2}$ S. from the west point of the island.

The *N.W. Reef* of *Bicquette*, above alluded to, is the greatest danger, lying West $1\frac{1}{2}$ miles from the west end of the island. The cross mark for it is the west end of Bic in one with the north-west point of Ha-Ha Bay, bearing S.S.E. $\frac{1}{2}$ E.; but this last named point can seldom be plainly made out, in consequence of the high land behind it. In approaching the reef from the westward, the north extremity of *Cape Arignole* should not be shut in behind the west point of Bic.

This reef is composed of two rocks about $1\frac{1}{2}$ cables long, and which just cover at high water: both it and *Bicquette* are bold to the northward. There is deep water all along the line from the north side of *Bicquette* to this reef, and also between the latter and the rocks to the south-east of it, but these are dangerous passages, which ought not to be generally tried, though it is useful to know of their existence in case of emergency.

The *Alcides Rock*, on which the ship of that name struck in the year 1760, has only 4 feet over it, and bold-to. This rock lies at a mile and three-quarters from the shore, with the west end of the Isle Bic bearing N.E. $3\frac{1}{2}$ miles, and *Cape Orignal* E. $\frac{1}{2}$ N. $\frac{1}{2}$ miles. Ten fathoms of water lead to the northward of it.

Razade Isles.—At a mile and a half from shore, and $1\frac{1}{2}$ miles S.W. by W. $\frac{1}{2}$ W. from the west end of Bic, lies the N.E. of two islets called the *RAZADES*; these are two large rocks always above water. They bear from each other nearly S.W. and N.E., one mile and a half distant. Ten fathoms of water lead to the northward of them.

Basque Island, a small narrow isle, extending one mile and a quarter E.N.E. and

W.S.W. bears W.S.W. 5 miles from the N.E. Razade, and S.W. by W. $\frac{1}{2}$ W. 20 miles from the west end of Bic: it appears round, is bluff, and covered with trees. There are no houses on it; extending to the N.W. from its west end, is a ledge of rocks, dry at low water, and steep-to.

Apple Isle, a narrow barren islet, with rocks, lies at 3 miles W.S.W. $\frac{1}{2}$ W. from the west end of Basque, and $2\frac{1}{2}$ miles from shore. Between it and the land there is a passage.

GREEN ISLAND.—This island, with the reefs that project from each end of it, is $2\frac{1}{2}$ leagues in extent from N.E. by E. to S.W. by W. Two families reside upon it.

Lighthouse.—The most remarkable object on Green Island is a lighthouse which stands on its northern side, at about $1\frac{1}{2}$ mile from the N.E. end, and which shows a fixed light at 60 feet above the level of low water mark. Behind the lighthouse, $\frac{1}{2}$ mile off to S.S.E., is a *white beacon*, which in one with it leads clear to E. of the Red Island Reef. The bearing and distance of Basque Island from the lighthouse, are N.N.E. $\frac{1}{2}$ E. 6 $\frac{1}{2}$ miles; and from the lighthouse to the extremity of the S.W. reef of Green Island, S.W. by W. $5\frac{1}{2}$ miles. There is no other danger on the north side of the island than a dangerous reef, which extends from the lighthouse $1\frac{1}{2}$ mile N.N.E. $\frac{1}{2}$ E. This ledge is a reef of rocks which are steep-to, and covered at high water of springs-tides. The other part is steep-to and rocky.

Green Island Reef, which is extremely dangerous, runs out from the lighthouse N.N.E. $\frac{1}{2}$ E., $1\frac{1}{2}$ miles, to the 3 fathoms line of soundings. From its north-east extremity it trends, with a serrated outline, N.E., till it joins the shoal water connecting Green and Apple Islands. Its north-west side is straight, running S.W. by S. from its north-east extremity, to the shore close to the westward of the lighthouse, off which it extends only 2 cables to the north-west. Its shape is therefore irregularly triangular, and the rocks on it dry at low water, nearly three-quarters of a mile out from the high water mark.

There is excellent anchorage in westerly winds under Green Island Reef, and it is the general rendezvous of vessels waiting for the flood, to beat through between Green and Red Islands. But as the first of the flood comes from the northward, and sets on the shoals, vessels had better not anchor with the light bearing to the westward of S.W. $\frac{1}{2}$ W. or in less than 7 fathoms at low water. With that depth, on that bearing, they will be $2\frac{1}{2}$ miles from the light, one mile from the eastern edge of the reef, and the same distance from the shoal water to the southward. If they wish still more room, they may choose their berth in 9, 10, or 11 fathoms, and will find a bottom of stiff mud in either depth.

The ledge of Green Island, Basque Island, and the high land to the southward of Cape Original, in a line bear E.N.E. $\frac{1}{2}$ E.

To ships, on coming up and going down the river, the lighthouse appears like a ship, and very conspicuous. In the night the light may be distinctly seen at the distance of five leagues.

The reef from the west end of Green Island dries to the distance of a mile from the island. The westernmost part is detached from the body of it, and the tide sets through the interval toward Cacons. This part is covered at a quarter flood.

THE DESCRIPTION OF THE RIVER. CONTINUED.

RED ISLAND lies in the middle of the estuary, off the mouth of the Saguenay River, and bears N.W. by W. $\frac{1}{2}$ W. nearly $5\frac{1}{2}$ miles from the lighthouse on Green Island. It has a low, flat islet, of a reddish colour, without trees, and partially covered with grass.

The reef, which extends $2\frac{1}{2}$ miles to the N.E. of Red Islet, and is $1\frac{1}{2}$ mile wide, is nearly dry in some parts at low water; the eastern extremity of this reef bears nearly N.W. by N. from the lighthouse. The depth decreases gradually on its eastern end,

but the islet is bold to on the S.W. A red buoy is moored at its east end in 5½ fathoms, and a red buoy in 2½ fathoms also marks its S.W. end. The eastern end of the reef is quite cleared by keeping the lighthouse and beacon on Green Island in one, bearing S.S.E.

The Lighthouse stands on the S.W. point of Red Islet, is 61 feet high, and is painted red. It shows a fixed red light at 76 feet, visible 12 miles off.

Lark Reef, on the north side of the river, lies opposite to the western point of Green Island, bearing N.W. 8 miles from it, contracting the navigation of the river to this breadth. It is at the S.E. extremity of a shoal, extending from Lark Point and Islet, the entrance of the Saguenay River, as before described, and which bear N. by W. 8 miles from it. Lark Patch, near the southern end of this reef, never covers, and outside it in 4½ fathoms is a white buoy. The space between the point of the reef and the shore dries at low water, nearly out to the point; this can be avoided, as well as those to the N.E. of it, lying off the mouth of the river, by keeping the western sides of the Brandy Pots and White Island in one, and open to the southward of Hare Island, being S.S.W. ½ W.; but this mark is distant, and cannot always be seen, but the buoy will mark its limit.

THE NORTHERN SHORE of the river, from the Saguenay to Coudres Island, is bold and mountains. The granitic hills in most part rise immediately from the river, forming steep precipitous headlands. Near the entrance of the Saguenay these hills are not above 1000 feet high, but those of the Eboulements attain an elevation of 2547 feet above the tide-waters of the river.

Cape Basque is the first mountainous headland S.W. of the Saguenay, bearing S.W. ½ S. 6½ miles from Lark Point; and about 1½ mile northward of it is the *Echafaud du Basque*, a small rocky islet in the mouth of a cove, and bearing 4½ miles W. by S. from the S.E. extreme of Lark Reef, the shoal of which extends as far as this place.

Basque Road is a well-sheltered anchorage lying off this, the best position being with the *Echafaud* bearing W.N.W. rather less than a mile distant, in 10 or 11 fathoms over clay bottom.

Bay of Rocks is about 2½ miles south-westward from Cape Basque, and affords shelter only to boats. Cape Dogs, 5½ miles S.W. of Cape Basque, is quite bold and high; and similar to it is Cape Salmon, which is S.W. 9½ miles distant from it. Further to the westward, about 1½ mile, is Port Salmon, which, like Port Parsley and Shettle Port, to the eastward, are only boat harbours. The settlements are nearly continuous on the banks from hence to Quebec.

Cape Eagle is 5½ miles S.W. by W. ½ W. from Cape Salmon, and is of the same character.

Murray Bay is 6½ miles W. by S. from Cape Eagle; it is a beautiful place. The bay is 1½ mile wide, and nearly as deep, and a rapid unnavigable river falls into the head of it, on which are several grist and saw mills. The bay is nearly all dry at low water, except the shallow channels leading to the river. Vessels occasionally anchor off the bay, with Point Gaze, its east point, bearing W. by N. about 400 fathoms, Point Pise, its west point, S.W. ½ W., and Point Hare E.N.E. ½ E.

The river at this part, between the Saguenay and Cape Eagle, is divided into two channels, by the Red Island and bank above described, and the shoals and reefs extending in a line along the middle of the river, at each end of Hare Island, in a N.E. and S.W. direction.

THE NORTH CHANNEL, though not that which is generally used, is clear, deep, and broad, and might be used advantageously under proper circumstances, as in the case of scant and strong N.W. winds; but with easterly winds and thick weather, or at night, it must not be attempted, as there would be no leading marks, and the depth is too great and irregular to afford any guidance, besides the want of shelter or anchorage on the north shore.

White Island, on Hare Island North Reef, is covered with trees, and bears from Red Island S.W. $\frac{1}{2}$ W. nearly 10 miles, and from the N.E. end of Hare Island N.E. $\frac{1}{2}$ N. $1\frac{1}{2}$ miles. A shoal of rocks extends from White Island N.E. $\frac{1}{2}$ E. 3 miles, and dries to the greatest part of that distance. Between the N.E. end of this shoal and Red Island, $6\frac{1}{2}$ Miles distant, the channel is quite free from danger.

HARE ISLAND, &c.—The east end of this island lies S.W. $\frac{1}{2}$ S. a mile and a half from White Island; thence it extends $7\frac{1}{2}$ miles to the S.W., and in no part one mile in breadth. It is 250 or 300 feet high, thickly wooded; and has no inhabitants.

At S. by W. one mile and a half from the N.E. end of Hare Island, lie the three islets called the **BRANDY POTS** and **NOGGIN**. The northern Brandy Pot, high and covered with trees, is close to the southern one, and the bottom between it is dry at low water. The southern is a whitish rock, almost barren. The *Noggin*, which lies to the N.E. of the northern Brandy Pot, is likewise covered with trees. At low water these islets are connected by a chain of rocks, leaving a passage for a boat only. Half-way between the *Noggin* and the N.E. extremity of Hare Island, at half a mile from shore, there is also a reef, dry at low water; but all these are out of the fair-way. The depth of 7 fathoms leads clear of them.

To the south-westward of the Brandy Pots the south side of Hare Island has a flat of hard ground extending from it, three miles in length, and about one-quarter of a mile in breadth. The whole of this side of the island is bound with rocks.

Hare Island Bank.—This is an extensive shoal lying above, and nearly in the direction of Hare Island. It commences at about a mile S.E. from the S.W. end of the island, and extends thence S.W. by W. and S.W. nine miles. There is good anchorage on its south side, in 7 fathoms. On its northern side is **HARE ISLAND SOUTH REEF**, the greatest portion of which is uncovered at low water, to an extent of $2\frac{1}{2}$ miles; the part always uncovered is clothed with grass and spruce-brushes, lying $2\frac{1}{2}$ miles to the S.W. of Hare Island. The western extremity of this reef bears from that of Pilgrims N.W. by N. $3\frac{1}{2}$ miles; and the eastern end is nearly north $4\frac{1}{2}$ miles from the same. Off the east end of the bank, about a quarter of a mile distant, is a small rocky 2-fathom *Knoll*, on which White Island will be just shut in behind the south side of Hare Island. A red buoy is moored near it in 3 fathoms. At two-thirds of a mile from the east end of the bank is a 3-fathom shoal, on which White Island will be midway between the Brandy Pots and Hare Island.

Between Hare Island bank and the south-west end of Hare Island there is an unfrequented channel half a mile wide, and with from $3\frac{1}{2}$ to 4 fathoms water in it. To the south-west the Hare Island Bank extends 6 miles from the reef of the same name, and its south-west end will be cleared in 3 fathoms, by keeping Kamourasca church just open to the westward of Grande Island, bearing S. by W. $\frac{1}{2}$ W. A red buoy, in 4 fathoms, is placed on it, with the north sides of Hare Island and Reef in one; and two beacons in one on the east end of Grande Island, Kamourasca. One of these beacons is red, the other white, and they bear when in one S. $\frac{1}{2}$ E.

The **SOUTH CHANNEL**, between these banks and the south shore of the river, is justly preferred for the common purposes of navigation. The tides are not so strong, nor the water so inconveniently deep, as in the channel on the north side of the river: it has good anchorage in every part, and a sufficient depth for any ships.

The breadth of the channel, in its most contracted part, between Hare Island Bank and the Pilgrims, is two miles, and its greatest depths 7, 8, 10, to 13, 15, and 16 fathoms, mud, sand, and gravel.

BARRETT LEDGES.—The reef thus called is composed principally of two detached rocks. A chequered, black, and white buoy is moored in 6 fathoms on the N. side of the W. ledge, with the white diamond beacon on Hare Island in one with the E. extreme of the Brandy Pots, and the summit of the southernmost mountain of the high land of Kamourasca in one with the south point of the Great Pilgrim Island.

The rocks of Barret Ledge bear from each other N. 63° E. and S. 63° W. one-quarter

of a mile. The N.E. rock has 10 feet over it; the S.W. has 12. Between them is a depth of 7 and 8 fathoms.

At a mile S.W. from the S.W. side of Barrett Ledge, lies a small bank of 10 feet, called the *Middle Shoal*, with the Brandy Pots bearing N.W. $\frac{1}{2}$ W. distant a mile and a half. A white buoy is moored on it in 10 feet water, with the square white beacon on Hare Island open W. of the Brandy Pots and the summit of Ebonlemons Mountain in one with the S.W. end of Hare Island. Near it on the N.E. are from 6 to 8 fathoms of water. This shoal appears to be the extremity of the remains of a narrow *Middle Bank*, extending thence two leagues S.W. by W., and upon which there are still from 4 to $3\frac{1}{2}$ and 3 fathoms, on approaching to the Hare Island Bank. In the channel between the Middle Shoal and Brandy Pots are from 10 to 18 fathoms of water: but in that to the southward the general depths are 7 and 8 to 6 and 4 fathoms.

Cacona.—On the SOUTH SHORE of the River, the first point westward of Green Island, is the remarkable rocky peninsula of Cacona, 300 or 400 feet high, lying S.S.W. from the S.W. end of Green Island. At a mile and a half south-westward of Cacona, and just to the northward of the stream of it, are the *Perote Rocks*, two clusters, occupying the extent of a mile and a half. They lie at about one mile from, and parallel with, the main, and are nearly covered at high water. On the south side of them there is a narrow $3\frac{1}{2}$ -fathom channel: the depth of 10 fathoms leads clear on the north; and Green Island and Cacona just touching, and bearing N.E. $\frac{1}{2}$ E., will keep 3 fathoms depth on their north side.

The PILGRIMS.—Five islets, called the Pilgrims, lie at the distance of 14 miles above the peninsula of Cacona, at a mile and a half from the shore. They occupy an extent of $4\frac{1}{2}$ miles N.E. by E. and S.W. by W., and are based upon the *Banc du Loup* (or Wolf Bank), extending from shore above the river of the same name, and on the exterior part of which the depths are 2 $\frac{1}{2}$ and 3 fathoms. They are connected by reefs that dry at low water. The easternmost is the highest, and is covered with trees; the others are barren, and of a whitish colour. They are bold-to on the north side, but there is no passage for shipping between them and the shore.

From the N.E. or Great Pilgrim the Brandy Pots bear N.N.E. $7\frac{1}{2}$ miles, and the S.W. end of Hare Island N.W. by N. $4\frac{1}{2}$ miles. Hereabout the ebb runs downward at about $2\frac{1}{2}$ miles an hour.

Without the edge of the *Banc du Loup* is a sand-bank, called the *Pilgrim Shoal*. It is narrow, but 4 miles in length, and its general depths 13 and 14 feet at low water. A black buoy lies on its N.W. extreme in 4 $\frac{1}{2}$ fathoms. A depth of 7 and 8 fathoms clears it on the north side.

KAMOURASCA ISLES.—This is a group of narrow islets, lying at the distance of two leagues above the Pilgrims, on the same side of the river. The N.E. or *Grande Isle* bears from the Pilgrims S.W. by W. The bank between is steep-to. The island next to the Great Island is *Burnt Island*; and the third of the larger isles is *Crow Island*. These isles are about three miles in extent, and one or two from the shore; the bank within is dry at low water. Grand Island and Burnt Island are very steep on the north side, but Crow Island is surrounded with shoal water. On the E. end of Grande Isle are the two beacons before alluded to.

The settlement of KAMOURASCA is within the islands above described. Its church bears S.E. nearly a mile from Crow Island. From the latter, *Cape Diable* bears S.W. $\frac{1}{2}$ W. about three miles, but a long reef extends from the cape toward the island, the island, the easternmost part of which is covered at a quarter flood, and is little more than a mile from Crow Island. Two miles above Cape Diable is *Point St. Denis*; and a small cove on the south of this point. From Point St. Denis to *Point Onelle*, the land trends irregularly six miles to the S. W.

On the extremity of a shallow bay, at six miles westward from St. Anne's, stand the village and church of St. Roque. The country between is occupied with settlements, and an extensive mud-bank, with large scattered stones, uncovered at low water, extends in front of it. This mud-bank is included with the greater bank of sand called the *Shoals of St. Anne* and of *St. Roque*, extending more than a third

over the river, from the southern shore, and limiting the channel on the south side. The St. Anne buoy is black, and moored on the north-western edge of these shoals in 2½ fathoms, with St. Anne Church bearing S.E. ½ S. and Cape Diable open to the northward of St. Denis Point. All along the edge of the bank, from Kamourasca up to this buoy, there is excellent anchorage in from 7 to 10 fathoms, stiff mud bottom.

Opposite to Point Ouelle, on the north side of the river, is *Cape aux Oies*, or *Goose Cape*, which is bold and rocky, forming the western extremity of *MAL BAY*. *Point au Pies*, on the west of Murray Bay, 9½ miles N.E. ½ N. from Goose Cape, being the eastern extremity. Mal Bay is formed by a slight incurving of the coast; shoals extend a quarter of a mile off shore, and there is no good anchorage in it.

Cape Martin is three miles W. by S. from Cape aux Oies; between them is good anchorage, and about midway is a large stone called the *Grosse Rock*.

Vessels anchor in 7 fathoms; the *Grosse Rock* bearing N.W., being here sheltered from the tides, which run past Goose Cape with great rapidity, and occasion at times a strong rippling.

ISLE AUX COUDRES is opposite to Point St. Roque on the south shore; and at this part the navigation of the river upward becomes intricate, from the numerous banks and islands which form the Traverses and numerous channels.

The island is 6 miles long and 2½ wide; its eastern end is 2½ miles S.W. from Cape Martin. The island, being cultivated, has a pleasing aspect; it has as many inhabitants as it can support, having been settled at an early period. Its south shore is lined with rocks and shoals, extending a mile out from it. Its north side is bold, and *Prairie Bay* affords excellent anchorage. There is a reef of rocks running off the N.W. of the island, which are all covered at high water. The bearings from the end of the ledge are, St. Pierre Church in St. Paul's Bay just open, bearing N.W. ½ N.; *Cape Corbeau*, the east bluff of St. Paul's Bay, N.N.W. ½ W.; the waterfall on the north shore, N.N.E. ½ E.; the bluff point of the island, S.S.E.; and the N.E. bluff point of the same, off which is a reef of rocks, E. ½ N.

The NORTH CHANNEL to Quebec is on the north of Isle aux Coudres, and runs along the high northern shore of the river; and on the south side of it is the line of shoals, which extend from the west side of Isle aux Coudres to Burnt Cape Ledge and the Bayfield Isles.

The MIDDLE CHANNEL is to the south of the Isle aux Coudres, the entrance being between it and the Middle Ground, whence it runs westward along the shoals between it and the Seal Islands, and to the north of Goose and Canoe Islands, into the South Traverse.

The SOUTH TRAVERSE, that which is generally used by vessels at present, is along the south side of the river.

SOUTH TRAVERSE—The entrance of the South Traverse lies between the black buoy, on the edge of St. Anne's Bank, on one side, and the bank called the Middle Ground, on the other. The narrowest part of the channel is indicated by a light-vessel, stationed at nearly 5 miles W.S.W. from the black buoy of St. Anne's, and which is to be left, on sailing upward, on the port or south side.

The Light Vessel is moored in about 3½ fathoms water on the north-east point of the Shoals of St. Roque, nearly in the line from St. Roque Church to the north-east end of Coudres Island; the former bearing S.S.E., 4½ miles, and the latter being distant 4½ miles. It exhibits two fixed white lights, which, in clear weather, should be seen from a distance of 9 miles. The beacon at St. Roque, open its own breadth to the westward of St. Roque Church, forms a cross mark for insuring the position of this light vessel, the beacon being to the southward of the church. A gong is struck every five minutes on board the light vessel in snow storms and foggy weather.

Three black buoys are placed on the northern edge of the Shoals of St. Roque, marking the southern edge of the South Traverse. They are moored in 2½, 3½, and 3 fathoms water, and at the distance of nearly 1, 2½, and 4½ miles respectively

above the light vessel—the last buoy being on the south-west point of the Shoals of St. Roque. The opposite or northern side of the Narrows is shown by the two red buoys, moored in 2½ and 3 fathoms water on the southern side and south-west end of the Middle Ground. It may, however, be useful to add here, that the red buoy on the south-west end of the Middle Ground lies on the line of the Wood Pillar Island and Goose Island touching, and with the two beacons at St. Roque in one; the south-easternmost beacon being diamond shaped.

The passage between these buoys is only half a mile broad, and this is the most intricate part of the navigation in the river. The courses up, from these buoys, are S.W. ½ S. 4 miles, and S.W. by S. 2 miles, whence you enter the South Traverse, distinguished on the north side by a rocky islet, named the *STONE PILLAR*, or *Pilier de Pierre*, which is a quarter of a mile in length, at 2½ miles from the south shore.

Lighthouse.—A revolving light is shown from the tower, 38 feet high, on South or Stone Pillar, during the season of the navigation. This light will revolve at intervals of 1½ minute, at 68 feet above high water.

About 2½ miles north-westward of the Stone Pillar is a 3-fathom shoal, called the *Channel Patch*, marked by a chequered, black, and white buoy, lying in the mid-channel, and below it are several other patches, with from 2½ to 3 fathoms. The marks for the Channel Patch, which may be passed on either side, are the north sides of the Goose Island Reef and of the Stone Pillar in one, bearing S.W. ½ W., the latter being distant 2½ miles; the north side of Goose Island (including the islands close off it) and the south side of the Wood Pillar in one, bearing S.W. by W. ½ W., and lastly, St. Jean Church S.E. ½ S. 2½ miles.

The *Avignon* or *South Rock*, a half-tide rock, round on the top, and dry at three-quarters ebb, lies at the distance of two cables' length S.E. from the lighthouse on the South Pillar, with a depth of 7 fathoms close to it.

The *Wood Pillar*, or *Pilier Boisé*, a high round rock, with trees on the western part of it, lies at a mile and a quarter to the west of the Stone Pillar. At half a mile to the east of it is a rock, called the *Middle Rock*, dry at half-ebb.

To the northward of the Piliers or Pillars are the *Seal Reefs*, composed of sand and shingle on slate, and having an extent of nearly four miles N.E. by E. and S.W. by W. To a considerable extent the rocks which form these reefs are dry at low water. The bank on which they lie is extensive on the N.E. toward Coudre Island.

At a mile and a quarter S.W. from the *Pilier Boisé* lies the extremity of a reef extending thence to *Goose Island*; and at a mile and a quarter S.W. ½ W. from the Stone Pillar is the commencement of a ledge of high rocks, called the *Goose Island Reef*, extending thence 2½ miles S.W. ½ W. the western part of which is composed of rocks always above water, and steep to on their south side.

GOOSE ISLAND.—We have now advanced to *Goose Island*, connected by low meadow land to *Crane Island*, the whole of which occupies an extent of ten miles in a direction N.E. ½ E. and S.W. ½ W. The South Traverse continues on the south side this of island; but is impeded by several shoals of 12 and 15 feet water, which requires great precaution.

A farm-house may be seen on *Goose Island*, to the eastward of which, and close to low water mark, is a large rock called the *Hospital Rock*. Two miles and a half to the westward of this rock is a long reef, dry at low water, but it is out of the fair-way, and close along the island.

The north side of *Crane Island* is in a good state of cultivation. On drawing toward it you will see a farm-house (Macpherson's) on the east end. To the S.E. at half a mile from this house, is the edge of the *Beaujeu Bank*, a narrow shoal which extends two miles thence to N.E. ½ E., and having, on its shallowest part, only 12 feet at low water.

Buoys.—The first white buoy is on the eastern end of the 2½ fathoms patch, next

eastward of the Beaujeu Bank, in 3 fathoms at low water, with the south side of Crane Island bearing S.W. by W. $\frac{1}{2}$ W., and the beacon on the meadows of Goose Island in one with the centre of Onion Island. The second *white buoy* is on the western end of the Beaujeu Bank, in 3 fathoms, with the lighthouse on the Stone Pillar appearing open two or three sails' breadth to the southward of Goose Island Reef, and the two white beacons on Crane Island in one.

These buoys are of the greatest assistance to vessels passing to the southward of the Beaujeu Bank, whilst the channel to the northward of the bank is between them and two *red buoys*, which are placed as follows:—The easternmost *red buoy*, in 4 fathoms water, is moored on the edge of the Goose Island Shoal, with Onion Island seen over the meadows, bearing N.W., and the south side of Island S.W. $\frac{1}{2}$ W. The eastern entrance of the channel to the northward of the Beaujeu Bank, between this buoy and the easternmost white buoy, is half a mile wide, with 9 or 10 fathoms water in it, but the depth decreases to 4 fathoms in the western entrance, which is only about 2 cables wide, from the depth of 8 fathoms to 3 fathoms. A second *red buoy* on the shoal, which extends 3 cables out from the high-water mark of Crane Island, marks the northern side of this narrow entrance, which is between it and the white buoy on the western end of the Beaujeu Bank. The marks for this second red buoy are, St. Ignace Church touching the eastern side of the peninsula of Cape St. Ignace, and Macpherson House bearing N. $\frac{1}{2}$ E.

On the south shore, opposite to the N.E. end of Goose Island, are the settlement and church of *L'Islet*, with a landing pier, 1200 feet long, and 8 $\frac{1}{2}$ feet water at its head, and at seven miles higher are the cape and village of *St Ignace*: between are numerous settlements, and a shoal bank extends along shore, which is a mile and a half in breadth, thus narrowing the channel-way to the breadth of a mile.

BAYFIELD ISLES.—To the west of Crane Island is a group which may, with strict propriety, be called the *Bayfield Isles*, in compliment to the gentleman by whom they have been so excellently surveyed. Exclusive of a number of smaller islets and rocks, the principal isles are, *Canoe Isle*, on the north side of Crane Island, *Marguerite* or *Margaret* to the west, *Grosse Isle*, and *Ile aux Reaux*, otherwise Rat Island, and the *Ile Madame*. The whole, between Crane Island and the Island of Orleans, occupies an extent of 14 miles. There are several passages between the isles, but they are too intricate to be understood without reference to the chart.

From the west end of Crane Island a reef of rocks extends to the W.S.W. about half a mile, and a spit of sand, of 9 to 12 feet water, a mile and a quarter thence, in the same direction. From the S.W. side of Margaret Isle there is likewise a bank extending in a S.W. direction, the extremity of which is marked by a *red buoy*. On the north side of this island is a good roadstead, with 8 fathoms of water, lying about a mile to the east of Grosse Isle. You enter from the southward with the red buoy above mentioned on the starboard, and a white buoy, three-quarters of a mile farther north, on the port side; the course in being N. by E.

For the guidance of the numerous vessels which stop there, a *red buoy* has been placed on the south-west end of Margaret's Tail, as mentioned above, and a *white buoy* on the north-east end of Grosse Patch; but in the absence of the buoys, the east points of Grosse Island and the Brothers in one, bearing N. by E., will lead through the channel between them; whence a vessel may either haul to the eastward between Grosse and Cliff Islands, or to the westward between Grosse Patch and Grosse Island, as may be preferred. In the latter case care must be taken to avoid a small rock with 7 feet least water, on the north side of which a *chequered buoy* has been placed. This rock lies about 560 yards N.W. by W. from the *white buoy* at the north-east end of Grosse Patch; and about 360 yards off the shore of Grosse Island at high water.

Grosse Isle, which has a farm near its N.E. end, is about 150 feet in height; and the next isle, *Reaux*, which is long, narrow, low, and covered with trees, has one near its west end. Off this island, as the law now stands, ships are obliged to anchor; from whence, after examination, they are allowed to proceed to Quebec, if not detained at the quarantine anchorage. It has a large landing pier which reaches into 16 feet water. The *Ile Madame* is also low, covered with trees, and has only one habitation.

The last two isles are wholly on a base of rock, and from the S.W. end of Madame the bank extends $2\frac{1}{2}$ miles to the S.W., and thus forms the western entrance of the *Northern Traverse*, on the eastern side of the Island of Orleans. A red buoy is placed on the west end of the reef in $5\frac{1}{2}$ fathoms, with St. Vallier Church S. 4° E. and a house on the west end of Reaux Island just open north of the same island. A ship should not approach it nearer than in 7 or 8 fathoms.

On the SOUTHERN LAND, above the Beaujeu Bank, will be seen, in succession, the churches of St. Ignace, St. Thomas, Berthier, St. Vallier, St. Michael, and Beaumont. A large tract, in the vicinity of the Riviere du Sud, is in so high a state of improvement, as to be considered as the granary of the province. The western side of this river is distinguished by the respectable village of St. Thomas, and the country about it is very fine, exhibiting churches and villages, the houses, being generally whitened, are pleasingly contrasted by the dark thick woods on the rising grounds behind them, the boundary of view beyond which is a distant range of lofty mountains.

From the Land of St. Thomas a bank extends more than half-way over toward Crane Island. Its northern extremity is a mile and a half S.W. by W. from the south point of the island. The bank is partly dry at low water.

The WYE ROCK lies immediately above the Bank of St. Thomas. This reef is about one quarter of a mile in length, in the direction of S.W. by W. It has only 3 feet over its west end, and 6 feet over the east end. The west end lies with the Seminaire of St. Joachim, a large building, with a tinued cupola and cross, on a rising ground near the water; on the north side of the river, just shut in with the east end of Reaux Island, and bearing N. 50° W. Its distance from the nearest shore is rather more than half a mile.

On the SOUTH SHORE, at 64 miles above the Wye Rock, and W.N.W. from Berthier Church, lie the BELLE CHASSE ISLETS, two remarkable large rocks. They are situate three-quarters of a mile from the shore. The ground, all the way up from St. Vallier Point to Quebec, is foul and unfit for anchoring.

ST. VALLIER CHURCH bears from that of St. Jean, or St. John, on the Island of Orleans, S.E. distant about three miles.

The BEAUMONT REEF, opposite to the Point of St. Laurent on the Island of Orleans, is a large rocky bank, extending more than half-way over from the south shore. It is dry at low water, uneven, and steep to on the north side, having 14 fathoms close to it.

The MIDDLE CHANNEL lies between the shoals and islands which form the northern side of the South Channel, and the long line of shoals and reefs, which extend from Coudres Island to Reaux Island, at the east end of the Island of Orleans. The entrance of the MIDDLE TRAVERSE, to the north of the Seal Islands, has not more than three fathoms at low water; but having passed this shallow part, there is depth and room enough for the largest ships, until we arrive at the Bayfield Islands, where the Middle Traverse communicates with the South Traverse by various narrow passages between the islands. There is plenty of water at all times in most of these passages, which will be best understood by referring to the chart, but the tides set strongly through them; and though it would be possible to take even the largest ships up to Quebec by the Middle Channel, were it requisite from any cause to do so, yet they are too intricate and difficult for general navigation.

The NORTH CHANNEL is a fine channel, and although not so convenient for the purposes of navigation as the South Channel, which is the most generally used, still it may be of service at times, as it frequently remains open, or free from ice, some time after the South Channel becomes unnavigable in the fall of the year.

The western entrance to this channel is between the reefs, which extend a mile to the E.N.E. of the N.E. of Coudres Island and the coast at Les Eboulements (land-slips), where there is a large settlement. The mark to clear the shoals, on each side this part of the channel, is Cape Goose and Cape Martin in one. There is a landing

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ST. PAUL'S BAY is opposite the west end of Coudres Island. It is shoal and rocky, with a great ripple at some distance off, around Cape Corbeau. Its western point is called *Cap le la Baie*, and shoals of mud and large stones extend off it for three-quarters of a mile, and which also extend for $1\frac{1}{2}$ miles to the south-westward at an equal distance.

After clearing the N.W. reef of Coudres Island by the before-mentioned marks, there is a fine straight channel from $1\frac{1}{2}$ to 2 miles broad, entirely free from danger, and extending 18 or 19 miles to the Burnt Cape Ledge. The depth does not exceed 17 fathoms, and there is good anchorage towards the sides, out of the strength of the tides, which run stronger and with more sea in this long and open reach than in the South Channel.

The southern side of this channel is a bank, extending, as before mentioned, from Coudres Island to Burnt Cape Ledge. Its edge is nearly straight, and is easily followed.

The *Neptune Rock* is nearly 15 miles S.W. from Coudres Island, within the edge of this southern shoal, and is easily recognised.

The *North Shore* is high, but the shoals extending three-quarters of a mile from *Cap de la Baie* and *Petit Rivière* will be cleared by keeping the extreme western capes, *Rouge* and *Gribanne*, open to the southward of *Cape Maillard*, which is 8 miles S.W. of the *Church of Petit Rivière*. *Abattis* is a landing, $1\frac{1}{2}$ mile S.W. of *Cape Maillard*; and at the *Sault au Cochon*, 2 miles farther S.W., the shoals which line the shore cease. There is only one landing place, *La Gribanne*, between *Abattis* and *Cape Tourmente*, a distance of 11 mile. To the westward of the *Sault au Cochon* the mountainous and uninhabited coast is quite bold, the high and precipitous capes, of various granitic rocks, being washed by the river as far as *Cape Tourmente*, where the *Seminaire Bank* commences, and the mountains trend to the N.W. away from the shore.

Burnt Cape Ledge is nearly opposite *Cape Brulé* on the north shore, from which it is distant $1\frac{1}{2}$ mile. The S.W. end is always above water, and is $\frac{1}{2}$ miles S.W. from the *Neptune Rock*.

The *Brulé Banks* are to the westward of the former, and are joined to it by shoal water. Their northern edge is only 600 fathoms wide, and from 7 to 10 deep. The banks form a bay on the south side, but which has no passage through to westward. This must be taken care of, and the north shore of *Cape Brulé* and *Tourmente* kept on board on nearing them. On the N.E. point of the *Brulé Banks*, which has extended to the east, a black buoy lies in 3 fathoms, with the west end of *Two Heads Island* and the west end of *Burnt Cape Ledge* in one S. $\frac{1}{2}$ E., and *Cape Tourmente* W. S. W.

The *Traverse Spit* lies between the *Brulé Banks* and the eastern point of *Orleans Island*, its N.E. part forming, with the S.W. part of the *Brulé Banks*, the *Eastern Narrows of the North Traverse*, which is only 250 fathoms wide, and 4 fathoms can be carried through within this breadth. The *Traverse Spit*, and the *Horse Shoe Bank* to the N.W. of it, as well as the *Brulé Banks*, dry, for the most part, soon after half-ebb, and thereby greatly lessen the difficulty of the passage.

As the leading marks can only be made out in fine weather, and by experienced eyes, it required buoying to render it safe for large vessels. The cross mark for the eastern entrance of this passage, and for the north-east extreme of the *Traverse Spit* is, the south-west point of *Two Heads Island* on, with a distant blue hill, bearing S.E. by E. $\frac{1}{2}$ E.; the north-east end of *Margaret Island* being at the same time just open to the westward of *Two Heads Island*. On the last named mark a red buoy is moored in 3 fathoms, and on the north-east end of the *Traverse Spit* and opposite to it, on the north-west side of *Brulé Bank*, a black buoy is moored in the same depth of water, and with the east end of *Margaret Island* and west end of *Two Heads Island* touching, bearing S.E. by E.

The mark for leading into the Traverse through the Eastern Narrows between the buoys, is the S.W. point of Reaux Island and Point St. Vallier in one, bearing S.S.W. $\frac{1}{2}$ W. From the Eastern Narrows the channel runs S.W. by W. close along the southern edge of the Traverse Spit, leaving all other shoals to the southward.

At the distance of $2\frac{1}{2}$ miles we come to the *Western Narrows*, which are also 250 fathoms wide and $4\frac{1}{2}$ fathoms deep. The Western Narrows are between the Traverse Spit and the *West Sand*, which is $1\frac{1}{2}$ mile long and has 7 feet least water.

On the east end of the West Sand, where a *chequered black and white buoy* is moored in 8 fathoms, Berthier Church is just shut in behind the south-west point of Reaux Island, bearing S. $\frac{1}{2}$ W.; and Patience Island and Two Heads Island are touching, E. $\frac{1}{2}$ S.; and the mark for leading clear of this sand, at the distance of 2 cables to the north-east, is Reaux and Grosse Islands touching S.E. by E. The west end of the same Sand is cleared by the line of Joachim Church and the east end of Orleans in one.

The mark for leading through the Western Narrows, after having arrived as far as the east end of the West Sand (which will be when Berthier Church is just shut in behind the S.W. point of Reaux Island, bearing S. $\frac{1}{2}$ W.), is *Point St. John* and *Point Dauphine*, on the south side of Orleans Island, in one, bearing S.W. $\frac{1}{2}$ W.

Having cleared the Western Narrows, there is a fine clear passage between Orleans Island and the banks of Madame Island, not less than two-thirds of a mile wide, and with good anchorage all the way to the South Channel at Point St. John, a distance of nearly 7 miles.

The channel to the northward of the Island of Orleans has water enough for the largest ships, but is too narrow and intricate for general use.

THE ISLAND OF ORLEANS is distinguished for its fertility. The shores, in general, slant gradually to the beach; in some places are a few rocky cliffs, but not of great extent or elevation: from the foot of the slopes are large spaces of low meadow-land, sometimes intersected by patches of excellent arable. Bordering the north channel the beach is flat and muddy, with reefs of rocks running along it; but, on the southern side, it is a fine sand, with only a few pointed rocks sticking up here and there. The highest part of the island is by the church of St. Pierre, about $3\frac{1}{2}$ miles from the western extremity, and almost fronting the magnificent Falls of Montmorenci; and also just above Patrick's Hole, on the south side, nearly abreast of St. Pierre, on which is placed the second telegraph of a chain between Quebec and the quarantine establishment at Grosse Island. The central part is thickly wooded. The churches of St. Lawrence and St. John are situated close down on the southern shore; the distance between them is nearly six miles, and this extent presents excellent cultivated lands, richly diversified with orchards and gardens, and houses at short intervals from each other. *St. Patrick's Hole*, a little to the westward of St. Lawrence, is a safe and well-sheltered cove, where vessels outward bound usually come to an anchor, to await their final instructions for sailing. On the west point of it is a group of very neat houses; at several of which the inhabitants furnish accommodations to the numerous persons who visit the island, from amusement, or from curiosity, both in summer and winter.

Off **ST. PATRICK'S HOLE**, above mentioned, ships ride, in 10, 12, or 14 fathoms, abreast of the inlet. The telegraph, No. 2, is just to the eastward of this cove, on the high part of the island. The ground is not good, but it is well sheltered from easterly winds. Here the river is about one mile and a quarter wide, and bold on both sides.

At about half-way between St. Patrick's Hole and the west end of Orleans, is a shelf called **MORANDAN'S ROCKS**. They extend a cable's length from the island, and have only 10 feet over them.

On the S.W. part of the west end of Orleans is another reef: this is dry at low water, lies close in, and should not be approached nearer than in 10 fathoms. On the opposite shore, a little to the eastward of Point Levy, is another reef, which should be

passed at the same depth. Northward of Point Levy is a small reef, but close in, and out of the fair-way.

BASIN OF QUEBEC.—The appearance of the lands forming the Basin of Quebec is given hereafter, in the description of the river, from Montreal downward. We, therefore, only add here that it is one mile across between the high-water marks, with a great depth of water. The **HARBOUR OF QUEBEC**, properly so called, commences at St. Patrick's Hole, and extends thence to Cape Rouge River, which is nearly three leagues above Quebec. The **PORT OF QUEBEC** comprehends all the space between Barnaby Island and the rapid above Montreal.

The situation of Quebec, the capital of Lower Canada, is unusually grand and majestic, in form of an amphitheatre. The city is seated on the N.W. side of the St. Lawrence, upon a promontory, formed by that river and the St. Charles. The extremity of this headland is called *Cape Diamond*, of which the highest point rises 345 feet above the level of the water. It is composed of a rock of grey granite, mixed with quartz crystals (from which it obtains its name), and a species of dark coloured slate. In many places it is quite perpendicular and bare; in others, where the acclivity is less abrupt, there are patches of brownish earth, or rather a decomposition of the softer parts of the stone, on which a few stunted pines and creeping shrubs are here and there seen; but the general aspect of it is rugged and barren.—(*Bouchette*, Vol. i., 241.)

The latitude of Quebec is $46^{\circ} 48' 9''$, and its longitude we assume as $71^{\circ} 12' 32''$ from the reasons assigned in the "Memoir on the Atlantic Ocean," page 59.

TIDES IN THE RIVER ST. LAWRENCE.

On the days of full and change, the tide flows in the river as follows:—Near Cape de Monts, on the north side, at $1^h 55^m$. In Manicougan Bay, at 2^h ; here spring-tides rise 12, and neaps 8 feet. At Bersimis Point, 2^h .

On the south coast, near Cape Chate, the time is $1\frac{1}{2}^h$. Here spring-tides rise from 12 to 14, and neaps 8 feet. Off the River Matane the time is $2^h 0^m$; springs rise 12, and neaps 8 feet. At Grand Metis Bay, the time is $2^h 10^m$; springs rise 13, and neaps 8 feet. Off shore hereabout, the current on the surface always runs downward, from $1\frac{1}{2}$ to $2\frac{1}{2}$ knots.

The time of high water at Green Island, is 3^h ; spring-tides rise 16, and neaps 10 feet. In the middle of the river, off the eastern part of this island, the flood from the north shore turns to the southward and sets thence eastward off the south shore; and thus below the Isle Bic, the stream sets constantly downward, at the rate of $1\frac{1}{2}$ to $2\frac{1}{2}$ knots as above mentioned.

At Green Island, the time is $2^h 45^m$; at Kamourasca, 4^h ; at the Brandy Pots, 3^h ; in the Traverse, $4^h 30^m$. Off Point St. Roch or Roque, $4^h 50^m$. Here it ebbs $6\frac{1}{2}$ hours, and flows 5.

At the **ISLE BIC** the stream never bends to the westward until an hour's flood by the shore. The neap-floods are here very weak; and, with westerly winds, none are perceptible. A spring-flood is, however, always found, within four miles of the shore, between Father Point and Bic.

The ebb-stream from the River Saguenay sets with great force south-westward toward Red Island Bank. Off Green Island, on the opposite side, there is little or no flood, but a great ripple.

All the way hence to Quebec, the tide, when regular, flows tide and quarter-tide; but it is influenced greatly by the wind, and by no means to be depended on, as to its running, anywhere below Hare Island, where there is a regular stream of ebb and flood.

BETWEEN BARNABY AND BIC the stream of flood sets in from the N.E. at the rate of about two knots; then fair through the channel until last quarter flood, when it

sets to the N.W. by the west end of Bic, and then gradually to the N.E. as the flood slackens. The whole of the ebb, both to the eastward and westward of the island, sets strongly to the N.E.

The current between Bicquette and the north coast is generally very strong to the N.E., without any regular change. In the summer and autumn, as well as in spring-tides, this current slackens, and, near Bicquette, runs to the westward; during flood, but, until the upland waters have all run down; and the great rivers have discharged the freshes, caused by the thawing of the snows in the spring of the year, this current always runs downward.

From Bic to GREEN ISLAND, on the southern side, the stream of flood is nowhere perceptible at a mile and a half from the islands. The ebb, or rather current, comes strongly from the N.W., out of the River Saguenay, and through the channel to the northward of Red Island, and joining the eddy-flood, before explained, increases the constantly downward course of the stream. Here it always runs in a S.E. direction, two miles an hour, with a westerly wind; but only so to the southward and eastward of Red Island. Between Red Island and Green Island, the ebb runs from 4 to 6 knots. In crossing over to the north shore, this easterly current will be found to diminish; for, on the north side, the flood is pretty regular, and the ebb much weaker.

Eastward of the Razade Rocks, and near Bic, the eddy-flood assumes a N.E. direction, and sets strongly between Bic and Bicquette. To the southward of Bic, spring-floods run at the rate of a knot and a half; neaps are not perceptible. Ships that come to the southward of Bic, with a scant wind from the northward, must steer W. by N. to check the S.E. current, until they come into 18 fathoms of water, or up to Basque, whence they proceed for Green Island.

The first of the flood, spring-tides, sets from the N.E. along the north side of GREEN ISLAND, and strongly toward the west end of it; then S.S.W. over the reef toward Cacona. In the middle of the channel no flood is perceptible. During spring-ebbs, the meeting of the N.E. and S.E. tides, near the middle of Green Island, causes very strong rippings: and, to the eastward of Green Island, the S.E. ebb comes strongly about the east end of Red Island; here meeting, the N.E. tide causes a high rippling, much like broken water in strong easterly winds: but, in neap-tides, the floods are very weak, and in the spring of the year there are none. This renders the part of the river now under notice more tedious in its navigation than any other, unless with a free wind.

From the west end of Green Island a regular stream of flood and ebb commences, which runs five hours upward and seven downward. At the Brandy Pots it flows tide and quarter-tide: and, above the Percée Rocks, on the south shore, it sets regularly up and down, N.E. by E. and S.W. by W.

From the Brandy Pots, the stream of flood sets toward Hare Island; and, near the west and N.W. with great strength, through the passage between the island and bank.

Above Hare Island, the flood sets regularly up the river. The ebbs contrarywise.

From the PILGRIMS up to Cape Diabie, the flood is very weak, but it thence increases up to the buoys of the Traverse, where it runs at the rate of 6 knots. The first of the ebb sets towards the English Bank and Hare Island Shoal, when abreast of the greater island of Kamouraska, and the ebb contrary.

In La Prairie Bay, on the north side of the *La Coudre*, the time of high water is 4^h 25^m, and here it flows six hours: the ebb-stream continues an hour and a quarter after low water, and the three-quarters of an hour after high water.

The tides in the North Channel being half an hour earlier than in the Southern Channels, the first of the flood sets strongly on the St. Roque and St. Anne's Banks; and the first of the ebb sets strongly across the shoals in the middle of the river. In the Traverse, spring-tides rise 18, neaps 11 feet.

In the South Traverse, on the full and change, the tide on shore flows at half

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In the Traverse, the first of the flood sets from the N.N.E.; at the buoys, at a quarter flood, it takes a S.W. direction, and, when the shoals are covered at half-flood, at the Seal Reef, it sets until high water S.W. by W. The ebbs, in a contrary direction, run with great strength; frequently, in the spring of the year, at the rate of 6 or 7 knots.

Between the Piliers or Pillars, it is high water at 5^h 0^m. The ebb here runs 6 hours and 50 minutes; the flood, 5 hours and 25 minutes. Both streams continue to run an hour after high and low water by the shore.

From Crane Island the flood sets fair up the river, but the first of the ebb off L'Islet sets to the northward for half an hour, then fair down the river, and at the rate of not more than 3 $\frac{1}{2}$ knots in spring-tide.

At the Isle aux Reaux, or Rat Isle, below Orleans Island, it is high water at 5^h 32^m. It ebbs by the shore seven hours, and flows five and a half. The streams run an hour later. Off the S.W. end of Madame Island, it is high water at 5^h 40^m; springs rise 17, and neaps 13 feet.

At Quebec the time of high water is 6^h 37^m. Here it ebbs by the shore seven hours and 40 minutes, and flows four hours and 45 minutes. Both streams run an hour after high and low water by the shore. Springs rise 18, and neaps 13 feet.

DIRECTIONS FOR SAILING UP THE RIVER, FROM ANTICOSTI TO QUEBEC.

Between the S.W. point of Anticosti and the coast of the district of Gaspé, the current from the river sets continually down to the south-eastward. In the spring of the year it is strongest; this is supposed to be owing to the vast quantity of snow which thaws at that time. In the summer, when the smaller rivers have lost their freshes, this current is estimated at the general rate of two miles an hour; but in the spring, its rate has amounted to three and a half; which, of course, varies according to the quantity of snow, &c. Mr. Lambly says that there is a difference of two and three feet in the level of the River St. Lawrence, between the months of May and August; which he imputes to the quantity of ice and snow melted in the spring.

Those advancing toward the river, in the fairway between the S.W. point of Anticosti and Cape Rosier, with the wind from the North or N. by E., if ignorant of the current, may think that they are making a reach up, when really approaching the south shore. This is to be guarded against; particularly during a long night, or in dark and thick weather. It is always best to tack in time, and get out of the strength of the current, which will be found to diminish toward the north coast.

In coming up, with CONTRARY WINDS, and being far enough to the westward to weather Anticosti, stand to the northward, and keep within three or four leagues of the land up to the extremity of the Cape de Monts. Here the lighthouse, described on page 107, will be found extremely useful. The land is all bold, and the tide along it favourable. After getting up to Trinity Cove, or the coast to the N.E. of the cape, the flood be found setting along the north shore.

Should circumstances render it necessary, you may proceed to, and take shelter at, the entrance of the HARBOUR OF ST. NICOLAS, already described, which lies W. by N. 5 leagues from Cape de Monts.

Ahead of MANICOUGAN SHOALS, at about two-thirds of the channel over from the southward, a strong rippling has frequently been found; at about two miles farther north, another; and at two miles more a similar one: these are visible only in fine weather, and are supposed to be caused by the slack of the eastern current, which

runs down on the south shore, and the regular flood on the north. In this part no bottom is to be found. Toward the *Points of Bersimis and Mille Vaches*, the same appearances may occasionally be found, but there is no danger; it being merely the conflict of the two streams.

In proceeding upward, with *contrary winds*, a ship should continue to keep over toward the north shore, but taking especial care to avoid the Manicougan and Bersimis shoals. Thus she will avoid the current setting strongly down the middle of the river, and have the assistance of the flood-tide, which is not felt hereabout on the south shore.

The current is sometimes strong to the N.E. between Bicquette and Mille Vaches.

If a ship has advanced up, on the north side, to Bersimis Point, with the wind at west, and a flood-tide, she may cross over to Father Point, and obtain a pilot. Should the wind change to S.W. by W., keep the north land on board, until sure of fetching the point.

With a FAIR WIND, and under favourable circumstances, a ship proceeding upward, on the SOUTH SIDE of the river, may find soundings, but very irregular, along the coast to Matane; the shore is, in general, steep. No anchoring in any part: the depth 20, 30, and 50 fathoms, at one mile from the rock, and all hard ground; in from 50 to 80 fathoms, the bottom is of clean sand.

From CAPE CHATTE to Matane, the course and distance are W. $\frac{1}{2}$ S. 10 $\frac{1}{2}$ leagues. When at 4 miles to the north-eastward of Matane, you will see the Paps bearing S.W. $\frac{1}{2}$ W.: they stand inland to the westward of the river, as already noticed, and this is the best bearing on which they can be seen. Mount Camille will now come in sight to the W.S.W., and may be seen in this direction 13 leagues off. It hence appears to the northward of all the land on the south side, and in the form of a circular island.

Twenty-three miles W. $\frac{1}{2}$ S. of Matane River is LITTLE METIS COVE, described on page 112. If requisite to anchor here, give the east end of the reef a berth of 100 yards, or cross it in three fathoms: then haul up into the middle of the cove, and let go.

GRAND METIS, described on page 113, is 5 $\frac{1}{2}$ miles W. $\frac{1}{2}$ S. from Little Metis. The bank of soundings extends farther to the northward of these coves than off Matane, and 35 fathoms, with sand, may be found at four miles from shore; but, beyond this, the depths speedily increase to 60 and 70 fathoms. The edge of the bank continues steep as high up as Green Island. Along-shore, within 10 fathoms, the ground is hard, and it is difficult for a boat to land, unless in fine weather. From Grand Metis to Cock Cove, as already shown, page 113, the land trends W. by S. 10 miles. In fine weather, ships may stop tide between, in 15 fathoms.

FATHER POINT, OR POINT AUX PÈRES, with its *red light*, has been already described, as well as Barnaby Island, which lies to the westward of it (see page 113). Small vessels, seeking shelter from westerly winds, may find a depth of 3 fathoms, under the reef extending from the east end of this island in *Rimousky Road*. Upon this reef is a large round stone, which serves as a mark. To enter, cross the tail of the reef in 4 fathoms, and then haul to the southward; and, when the island bears W. by N., with the large stone N.W. by W., anchor at a quarter of a mile from the island.

From *Barnaby Island*, the Isle Bic bears west, 10 miles; Bicquette W. by N. 11 $\frac{1}{2}$ miles; and Cape Orignal W.S.W. $\frac{1}{2}$ W. 3 $\frac{1}{2}$ leagues. Cape Orignal and the end of Bic lie north and south from each other, distant 2 $\frac{1}{2}$ miles. The Cape bears from Bic Old Harbour nearly west, about 2 $\frac{1}{2}$ miles. From the cape a reef extends east one mile. The eastern part of this reef and the western point of the harbour, in a line, bear E.S.E. one mile.

SOUNDINGS, &c. between COCK COVE and BIC ISLAND.—From Father Point, the bank extends northward five miles. At that distance from land are 35 fathoms of water, with sand and mud. Hence, westward, all the way within one mile of Bicquette, the soundings are very regular. Ships may therefore stand to the south-

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If a ship arrives off Father Point, during an easterly wind and clear weather, when no pilots are to be obtained, she may safely proceed along the land in 10 fathoms of water. On approaching the Isle Bic, the reef extending from the S.E. of that island will be seen; give this a berth, and continue onward through the middle of the channel between the island and Cape Orignal. With the body of the island N.E. you may come to an anchor, in 8 or 9 fathoms, clean ground, and wait for a pilot. There is a spot on the island cleared from trees: when this spot bears N.E., from a depth of 11 or 12 fathoms, you will be in a good berth. The ground is hard toward the island.

The pilots repair to their rendezvous in April. On their boats and sails are their respective numbers. The proper rendezvous is at Father Point; but they are often met with at Matane and Cape Chatte, and sometimes lower down.

A ship off Father Point, during THICK WEATHER, and an easterly wind, without a pilot, may stand to the southward by the lead, and tack by sounding. In this case observe that, when in 10 fathoms, Bic will bear due west.

To BEAT up from Father Point to Bic Island, you may make free with the south shore; as, by rearing it, the flood-tide will be most in your favour. The depth of 7 fathoms is a good way, and you may anchor in that depth all the way up to the island. When bearing a, to the southward of Bic, from the eastward, stand to the southward into 7 fathoms, while to the eastward of the island, but approach no nearer to the S.E. reef than 9 fathoms. In the middle are 12 fathoms. In standing to the northward, toward Bic, tack, in 10 fathoms all along the island, and when it bears N.E. anchor as above.

THE GENERAL COURSES, ETC., BETWEEN CAPE CHATTE AND ISLE BIC, ARE AS FOLLOW:—

A ship bound upward, and having arrived within three leagues to the N.E. of Cape Chatte, should steer W. by S. or according to the wind, allowing for current to S.E., as already shown. Running thus, for 24 leagues, will bring you to Father Point. Should the weather be thick, you may haul to the southward; and if, after gaining soundings in from 30 to 25 fathoms, the water should suddenly shoalen to 20 and 15, you will not be up to the point, but may safely run four or five miles higher: with soundings, and the water gradually shoaling from 33 to 26, 18, &c., in three or four miles, you will be up with the point, and may make signal for a pilot, approaching no nearer than in 12 fathoms. Here you will be about one mile and a half from shore; and will, if the weather be clear, see the houses. The shore is bold-to, and may be approached with safety. From Father Point to the Isle Bic, the bearing and distance are W. 4 S. 16 miles.

While advancing from the eastward toward Father Point, and being off Little Metis, the high land to the southward of Cape Arignole, or Orignal, may be seen before the cape itself or Isle Bic come in sight. From off Mount Camille, in clear weather, Bic may be clearly seen. To avoid mistaking Barnaby Isle for that of Bic, observe that, in thick weather, a ship cannot approach the land, near Father Point, without gradually shoaling the water; consequently if, while keeping the lead going, you come into 9 fathoms, and make an island suddenly, it must be Barnaby; or, if falling in with an island on any bearing to the westward of W.S.W., one cast of the lead will be sufficient to ascertain which it is; for, with Barnaby from W.S.W. to west, you will have from 7 to 5 fathoms only; but with Bic on the same bearings are from 15 to 12 fathoms.

If, with the lead kept going, and no soundings be found, you suddenly fall in with an island to the southward, it must be Bicquette. With this island S.W. half a mile, there are 16 fathoms of water. At two miles east from it are 10 fathoms, and a ship

advancing into this depth, from the deeper water, may either haul off to the northward, and wait for clear weather, or proceed, by sounding around the reef from the east end of Bic; steer thence west two miles, and come to an anchor, within the island, in 12 or 11 fathoms. At 4 miles north of Bicquette are 60 fathoms of water.

With an **EASTERLY** wind, if requisite to anchor on the south side of Bic, to proceed from windward, run boldly to the southward, and look out for the reef extending from the east end of the island; the latter may be seen, being always above water. Give the reef a berth of a quarter of a mile, and run along, in mid-channel, until Cape Original bears S.S.E., the body of the island then bearing N.N.W. In 10 or 11 fathoms is a large ship's berth, the ground clear and good. Small vessels may run up, until the island bears N.E. in 9 fathoms, at about a quarter of a mile from the island; but here the ground is not so clear as in the deeper water. Fresh water is obtainable in the cove just to the westward of the east end of the island.

If, during a **WESTERLY** wind, a ship should be to the windward of the island, and it be required to bear up, in order to anchor, stand to the southward, in 11 fathoms; then run down and anchor, as above directed; but particularly noticing that, with little wind, 10 fathoms is the proper depth of the fair-way, and that the last quarter-flood, and all the ebb, sets strongly between Bicquette and Bic.

Should you, with the wind *easterly*, be too far to the westward to fetch round the east end of Bic, in order to gain the anchorage, give Bicquette a berth of half a mile, then run up until the west end of Bic bears S.E., when Cape Original will be open of it. The latter mark leads to the westward of a reef that covers at a quarter-tide, and extends W.S.W. one mile from Bicquette. Another reef, always in sight, lies between the former and Bicquette. By hauling round to the southward, with Cape Original open, you will pass athwart the opening between Bic and Bicquette, in from 16 to 12, 10, and 9 fathoms; the water thence shoalens into 6 fathoms, on the spit of mud and sand lying S.W. by W. from Bic, one mile. After crossing this spit, you will deepen into 9 and 10 fathoms, when the passage will be open, and you may come to an anchor.

The N.W. ledge of Bic, the west end of that isle, and Cape Original, are nearly in a line when bearing S.E. When beating into Bic, from the westward, while standing to the southward, do not shut Mount Camille with Cape Original; in standing to the northward, do not shut Mount Camille with the Isle Bic.

BANK OF SOUNDINGS.—In the offing, between Barnaby and Bic, are regular soundings, decreasing from 35 to 30 fathoms, generally of clean ground. Ships may, therefore, anchor in any depth, but no nearer than a mile and a half, with Bic bearing from W.S.W., as otherwise, the channel on the south of that island will not be open; and, with a sudden shift of wind, you may not be able to quit the island.

At N.W. from the eastern extremity of the S.E. reef of Bic, and just to the southward of the stream of Bicquette, is the *N.E. reef*, a dangerous ledge, seen at low-water, spring-tides only. To avoid it, give Bic the berth of a mile. Westward of Bic the edge of the Bank of Soundings trends to the south-westward up to Basque Isle, and ships may therefore stand safely to the southward by the lead, 12 fathoms being the fair-way.

ISLE BIC TO GREEN ISLAND.—From the Isle Bic, Green Island bears S.W. by W. $\frac{1}{4}$ W. $9\frac{1}{2}$ leagues: and the course will therefore be from W.S.W. to S.W. according to the distance northward from Bic, &c. In this course and distance, you pass the Alcides Rock, the Razades, Basque, and Apple Island, which have been described in pp. 114, 115. From the rocks of Apple Island to the eastern reef of Green Island, the bearing and distance are W. by S. 2 miles. This reef extends nearly a mile from the trees on the east end of Green Island, and is always uncovered. The small channel on the south side of Green Island is nearly dry at low water.

The edge of the bank is steep to the northward of the Razades, &c.; but from 35 fathoms, inward, there are gradual soundings. Between Bic and Green Island

there is anchorage all the way in 15 fathoms; and for small vessels, in fine weather, in 9 fathoms. If up to the east end of Green Island, and the tide be done, you may anchor in 10 fathoms, off the reef, and in the stream of the ledge extending N.E. by N. from the Lighthouse point, at the distance of a mile from the extremity of that shoal.

Between Bic and Basque the ground is all clean; but thence to Green Island it is foul. A small vessel may find shelter under the east end of Basque, in $2\frac{1}{2}$ fathoms at low water, giving the east end of the reef extending from that island the berth of a quarter of a mile. The anchorage is with the island bearing W. by S.

The LIGHTHOUSE and reefs about Green Island have been already described in page 115. The lighthouse bearing S.W. by W. leads safely up to Green Island. The land to the southward of Cape Original kept open to the northward of Basque Island, leads clear of the lighthouse ledge. With the lighthouse bearing S.W. by S., this ledge will be exactly between the ship and lighthouse.

Between the lighthouse and the west end of Green Island, in fine weather, you may stop tide in 20 or 25 fathoms, close to the north side of the island: but, if the wind be fresh, the ground will be found to be bad for holding, and too near the shore. During N.E. winds, small vessels may anchor between the S.W. reef and Cacona, in 4 fathoms; but it will be better to bear up for the Brandy Pots, lest they be caught by adverse weather, &c.

RED ISLAND bears from the lighthouse of Green Island N.W. by W. $\frac{1}{4}$ W. nearly $5\frac{1}{2}$ miles. The eastern extremity of its extensive reef bears from the lighthouse nearly N.W. by N., and is cleared by the lighthouse and beacon on Green Island in one, bearing S.S.E. $\frac{1}{4}$ E. When coming up in the night, the light should not, therefore, be brought to the eastward of S. by E., until you are certainly within five miles of it. If, with the light bearing S. by E. you cannot make free to enter the Narrows, wait for daylight; and, should the wind be scant from N.W., you may then borrow on the south side of Red Island, but so as to have White Island open twice its own breadth from the north side of Hare Island. On drawing to the westward, you may approach the shoal of White Island by the lead, remembering that the ebb-tide sets strongly down between White Island Shoal and Red Island, and the flood in the contrary direction. A vessel may anchor, in fine weather, on the south side of Red Island Reef, in 12 fathoms, at the distance of about three-quarters of a mile. The tide hereabout, as already shown, sets in all directions.

The SOUNDINGS between Green Island and Red Island are very irregular. At a mile from each are nearly 30 fathoms of water. The water of this channel, during ebb-tide, with an easterly wind, appears broken, but there is no danger.

THE NORTH COAST.—The *Point de Mille Vaches* bears from Bicquette N. by W. $4\frac{1}{2}$ leagues. The extensive shoal, which surrounds this point, commences off the river of *Port Neuf*, on the east. The southern extremity of the shoal is a mile from shore, and is very steep-to. The greater part of the shoal is dry at low water. Above the point the land forms the *Bay of Mille Vaches*, which is shoal, and full of rocks. At 11 miles S.W. by W. from Point Mille Vaches, are two islets, called the *Esquemin Isles*. In the Bay, at 4 miles west from the point, is a small river, called *Sault au Mouton*, having a handsome fall of 80 feet near the mouth of it, which may be always seen when passing. Between the Esquemin Isles and Saguenay River, a distance of $7\frac{1}{2}$ leagues, S.W. by W., are three small rocky islets, named *Bondeir* and *Les Bergeronnes*, which afford shelter to fishing-boats.

In proceeding for the Saguenay River, should the weather be thick, it would be advisable to drop anchor at the Brandy Pots, until the weather becomes favourable, when the entrance can be easily effected with a leading wind. The leading marks are good, and the entrance a mile wide between the shoals. The Bull is a round mountain on the north side of the Saguenay, about 3 miles up, and by keeping the Bull open from the points, there is no danger in running in; and when abreast of the port or houses at Tadoussac, they may run up on whatever side they think they have most advantage, but with ebb-tide there is less current on the north-east side of the river.

Other directions have been given in the description of the river on p. 111, and it may be added here that there are good anchorages at the Anse St. Etienne, 10 miles above Tadousac, at St. Louis Island, 15 miles from Tadousac, at the Anse St. Jean, 22 miles, and at the Baie de l'Eternité, 28 miles above Tadousac, at all of which vessels might lie well to load; in other parts of the river the depth is far too great to anchor.

Ships working up to the north side, between the Esquemin Isles and Red Island, should keep within two leagues of the north land: the shore is clear and bold, and the flood pretty regular.

Should a ship, to the northward of Red Island, be caught by a sudden shift of easterly wind, so that she cannot fetch round the east end of Red Island Reef, she may safely bear up and run to the westward, giving Red Island, White Island, and Hare Island, on the port side, a berth of two miles in passing. At three leagues above Hare Island, haul to the southward, and enter the South Channel toward Kamourasca; whence proceed as hereafter directed.

GREEN ISLAND TO THE BRANDY POTS.—The Percée Rocks, Barrett Ledge, White Island, and the Brandy Pots, have already been described. (See page 117.) From Green Island to the Brandy Pots, the course and distance are from S.W. $\frac{1}{2}$ W. to S.W. by W. 4 leagues. To sail to the northward of Barrett Ledge, bring the southernmost mountain of Kamourasca in a line with the saddle of the Great Pilgrim, or an islet lying off the N.E. side of Green Island, touching the high land of Cape Arignole. Either of these marks will clear the Ledge.

In advancing toward the White Island Reef, you may trust to the lead: seven fathoms is near enough to tack or anchor in, and this depth is in the fair-way to the Brandy Pots. The Brandy Pots are steep on the south side, 10 fathoms being near to them.

There is good anchorage to the eastward of the Brandy Pots, in from 9 to 7 fathoms, and good anchorage above them, in from 9 to 14 fathoms. This is the best roadstead of any part of the river, during easterly winds, excepting that of Crane Island, and is the usual rendezvous for vessels bound down the St. Lawrence, and waiting for a wind.

There is a good passage to the southward of Barrett Ledge up to the Pilgrims, leaving the *Middle Shoal*, which is above Barrett Ledge, on the starboard hand. The north passage is, however, the best, and most used.

BRANDY POTS TO THE SOUTH TRAVERSE AND GOOSE ISLAND.—For the flat on the south side of Hare Island, above the Brandy Pots, see page 117. This flat is bold-to, there being 7 fathoms close to it, nearly up to the west end; and the whole of this side of the island is bound by rocks.

The lower end of the Middle Bank, as already noticed, page 118, bears S.E. $\frac{1}{2}$ E. about a mile and a half from the Brandy Pots. Between the Middle Ground and Hare Island are 10 and 16 to 20 fathoms of water. On the south side of the Middle Ground, there are 8 and 9 fathoms; at half-tide, in this part of the river, a large ship may safely beat up or down.

In proceeding to the westward from the Brandy Pots, there is a 3-fathom rocky patch, and the knoll, at the west end of Hare Island Bank, to be avoided, the rocky patch being two-thirds of a mile eastward of the knoll, which is to the S.E. of the western end of Hare Island; between them there are $3\frac{1}{2}$ and 4 fathoms. The marks and bearings of these have been described (page 117.). The Middle Bank, which extends between the Middle Shoal and Hare Island Bank, has $3\frac{1}{2}$ and 4 fathoms on it, and consequently this draught may be carried over it, but if a greater depth than 3 or $3\frac{1}{2}$ fathoms is wanted, White Island must be brought open to the eastward of the Brandy Pots. When White Island is brought to the westward of the Brandy Pots, or midway between them and Hare Island, the mark is directly on the 3-fathom patch, before described.

In standing to the southward from Hare Island, above the Brandy Pots, you will find 18 and 20 fathoms of water. On the north side of the Middle Bank, 4 fathoms;

but there are 8 and 9 fathoms on the south side of this bank, with gradual soundings to the south shore. Five fathoms is a good depth to tack in. Abreast of the middle of Hare Island the depths are nearly the same.

The direct course from the Pilgrims to the Chequered Buoy on the south side of the Traverse is S.W. by W., the distance about $7\frac{1}{2}$ leagues. The South Traverse and coast between have been fully described, see page 119. The bank between the Pilgrims and Kamourasca Isles is steep to. The mark for tacking here is not to shut the S.W. land with the great Island of Kamourasca—in standing to the northward, you will gain the depth of 20 fathoms.

KAMOURASCA.—From the west end of Crow Island, the third of the Kamourasca Isles, as described on page 118, the church bears S.E. nearly a mile. Between is a place on which ships may safely be run on shore. To get in, bring the church to bear E.S.E., or some distance to the westward of Crow Island, and run for it. In passing in, you will carry 14 feet in common spring-tides, and 10 feet with neaps. The bottom is of soft mud.

CAPE DIABLE bears from Crow Island S.W. $\frac{1}{2}$ W. about three miles, and a reef extends from the cape as already explained, the easternmost part of which is not more than a mile and a half from Crow Island. Ships from the westward, therefore, in order to get in, should run down along the reef in 6 fathoms, and haul in for the church, as above.

With easterly winds, the large cove on the S.E. of Cape Diable is a fine place for a vessel to run into, should she have lost her anchors. To enter, bring the church and Crow Island in the line of direction given above. Having arrived within the reefs, run up to the westward, leaving an islet that lies above the church on the left side; then put the ship on shore in the S.W. part of the cove, and she will be safe. Should the wind be westerly, put her on shore a little to the eastward of the church.

SOUTH TRAVERSE.—From Cape Diable to the SOUTH TRAVERSE, the course, if at three miles from the cape, will be S.W. by W. In proceeding, keep the northernmost part of the high land of Kamourasca in a line with the low point of St. Denis; this mark will lead to the Lightvessel and the black buoy off the point of St. Roque, and the white buoy upon the Middle Ground on the opposite side. When St. Roque church bears S.E. by S., the roadway beyond the church will be in a line with it, and you will be up to the buoys. From this spot run one-half or quarter of a mile above the buoys on a S.W. course.

From the spot last mentioned, the direct course upward along the edge of St. Roque's Bank will be S.W. $\frac{1}{2}$ S. 4 miles, and S.W. by S. 2 miles; but considerable allowance must be made for tide, whether ebb or flood. These courses lead up to abreast of the red buoy, lying on the bank at $4\frac{1}{2}$ miles W.S.W. $\frac{1}{2}$ W. from the Point of St. Roque. The depths on the courses prescribed are 8, 7, and 6 fathoms, varying to 11, and again to $5\frac{1}{2}$ and 6 fathoms.

On proceeding hence upward, with the lighthouse on the Stone Pillar in sight, bearing S.W., you will keep in the best water, but south-westward of the red buoy are several detached $2\frac{1}{2}$ and 3-fathom shoals, one of which, the Channel Patch, is in the fair-way; the bearings and marks are described on page 120. It may be passed to the northward or southward or southward, until you have the Stone Pillar at the distance of two miles, where the depths at low water are 6 and 6 fathoms. From this place you bear up, on a south course, into the southern part of the Traverse; and thence, not forgetting the *Arignon* or *South Rock*, the course will be S.W. $\frac{1}{2}$ W. until past the Stone Pillar and Goose Island Reef, which you keep on board upon the starboard side.

If running from off Cape Diable for the Traverse, during the night or in a fog, strike the bank off that cape in 7 or 8 fathoms, and steer about W.S.W. By keeping the water, it will lead to the light-vessel. On passing the point of St. Roque Sand, the water will suddenly be found to deepen, whence you must haul to the southward, keeping the south side on board, and proceeding as above.

If entering the Traverse with little wind, be careful to allow for the first of the

flood, as it sets strongly toward the point of St. Roque Bank. On going through, if more than half-flood, allow for a set to S.W. by W., and be sure always to keep the south bank on board. Above the Pillars, the tide sets fair up the river.

In beating into and through this passage, be careful and tack from each side on the first shoal-cast of the lead; but most so to the northward, on the edge of the Middle Ground. Ten fathoms is near enough to the bank; and it is to be remembered that the ship will always go farther over toward the Middle Bank than to the point of St. Roque Shoal.

Anchorage.—Between the Brandy Pots and Traverse, there is anchorage all along the English Bank, and upon the edge of the flat on the south side, between the Pilgrims and the greater Kamourasca Isle, in 9 fathoms; under the Pilgrims in 3 fathoms; off Cape Diable, in 10 fathoms; and thence, along the flat, up to the buoys.

Should the flood be done, when a ship is in the Narrows, or between the buoys, or if any occurrence render it necessary to anchor thereabout, instead of coming-to in the channel, run below either buoy, and come-to there, in 7 fathoms, on either side. The tides will be found much easier after half-ebb below the buoys than between them. In the deep water the tides here run very strong. Should the wind be inclinable to the southward, anchor to the southward of the stream of the black buoy, in 7 fathoms. Should a ship be a mile above the buoys, under similar circumstances, she should anchor on the edge of the South Bank, in 7 fathoms, with a good scope of cable before the tide comes strong; for, if the anchor once starts, you may have to cut from it, as it seldom takes hold again, the grounds hereabout being foul and unfit for holding.

Near the Pillars the tides are much easier than below; at and above them, setting at the rate of not more than $3\frac{1}{4}$ miles an hour.

Ships bound down with easterly winds may anchor at two miles to the north-eastward of the South Pillar, in 7 fathoms; or, to the southward of it, in the same depth, with good ground.

Stone Pillar to Crane Island.—From abreast of the Stone Pillar, or of the Avignon Rock, the direct course and distance to Crane Island, are S.W. $\frac{1}{2}$ W. 4 leagues. On this course you pass Goose Island, and arrive at the Beaujeu Bank, the channel to the south of which is that generally used; the depth in it is irregular, varying from 5 to 3 fathoms; and there are two rocky patches of $2\frac{1}{2}$ fathoms in the way, and difficult to avoid. The marks for passing the southern edge of the Beaujeu Bank, along the eastern half of its length, are, the Stone Pillar, its own breadth open to the southward of Goose Island Reef; and for the western part of the bank, which turns up slightly to the northward towards Crane Island, Point St. Vallier in one with the south side of Crane Island.

The south side of the channel is a muddy flat, of 3 and 2 fathoms, with regular soundings toward it. There is good anchorage all the way up to Crane Island. Stand no nearer toward Goose Island Reef than 10 fathoms; but above it you may stand toward the island to 7 fathoms. (See page 121.)

When up to the body of Crane Island, you may approach safely, as it is bold and clear, with 7 fathoms close to the rocks.

ANCHORAGE.—From off the Pillars to Crane Island, there is all the way good and clean ground. There is, also, a good road off the body of Crane Island, in 8 fathoms. The best road in the river, during easterly winds, is at a mile to the westward of Crane Island; and ships bound downward, if at the Pillars, and caught by strong easterly winds, had better run back to this place, than ride below, and risk the loss of anchors.

Crane Island to Point St. Vallier.—The direct course and distance from Crane Island to Point St. Vallier are from W. by S. to W.S.W. 4 leagues. Between are the mud bank of St. Thomas, the Wye Rocks, the Belle-Chasse Islets, and the bank of Grosse Island. (For description, see page 122.)

The Bank of St. Thomas is above two miles broad, and is dry at low water, nearly to its northern edge, which is very steep, and the marks for clearing it are Belle-Chasse Island and Point St. Vallier touching.

When St. Thomas's Church bears S.E. $\frac{1}{2}$ E., you will be abreast the point of the bank called Margaret's Tail, having a red buoy, and may thence steer directly up, W.S.W. The mark for the southern edge of Margaret's Tail Bank is, the S. side of Haystack Island and Crane Island Church in one, bearing E.N.E.

To avoid the Wye Rocks, never stand to the southward of six fathoms in the night; and by day, observe that the long mark is to keep Belle-Chasse Islets just open to the southward of Point St. Vallier. They are out of the way of vessels with a fair wind, and the cross mark for them is the Seminaire on the north shore in one with the E. point of Reaux Island, and Crow Island just open to the westward of Middle Island.

To the west of Margaret's Tail is a narrow rocky shoal called Grosse Patch, with 7 feet least water; between this shoal and Margaret's Tail is a channel 270 fathoms wide, and 5 fathoms deep, leading to the Quarantine Establishment on the southern side of Grosse Island. For the guidance of the numerous vessels which stop there, a red buoy has been placed on the S.W. end of Margaret's Tail, as before mentioned, and also a white buoy on the N.E. of Grosse Patch; but in the absence of buoys, the east points of Grosse Island and the Brothers in one, bearing N. by E., will lead through. There is a passage to the west of Grosse Patch, between it and the island, but care must be taken to avoid a small rock, with 7 feet least water, lying 180 fathoms off Grosse Island, and on which a black buoy has been placed.

When above Margaret Island, stand no farther to the northward than into 6 fathoms. Reaux or Rat Island and Madame are flat to the southward; 7 fathoms will be near enough to both. The south side of the channel, up to Belle-Chasse, is all bold; 8 fathoms are close to it, with 7, 8, 9, and 5 fathoms quite across. There is good clean anchoring ground, and easy tides, all the way.

When up to Belle-Chasse, stand no nearer to these islets than 8 fathoms, and to Madame than 6 fathoms. The shoal extending from Madame has already been noticed, p. 122.

The mark for clearing the southern side of Madame Bank, as well as the Grosse Island Tail and Patch, is, Race Island kept just open to the southward of Margaret Island. The mark for the S.W. extreme, which is the point of the entrance of the North Traverse, is, the north side of Reaux Island just open to the northward of Madame Island, bearing N.E. $\frac{1}{2}$ E., and St. Vallier Church bearing S. $\frac{1}{2}$ E. The cross mark for clearing it to the S.W. is, Berthier Church and the west-end of Belle-Chasse Island in one.

The NORTH CHANNEL and TRAVERSE and the MIDDLE TRAVERSE are but seldom used, and the description of them will be found on p. 122.

St. Vallier to Quebec.—From the Point of St. Vallier to that of St. Laurent, or St. Lawrence, in Orleans, the course and distance are from W.S.W. to S.W. by W. $9\frac{1}{2}$ miles. Both sides are bold; 10 fathoms in the fair-way from Orleans, and 8 fathoms from the south shore. Ships may anchor toward the island, in from 16 to 10 fathoms.

The SHOAL of BEAUMONT, described on page 122, is steep-to. Make short boards until you are above Point St. Lawrence, when you will be above it, and may safely stand to the southward into 10 fathoms.

From POINT ST. LAWRENCE to POINT LEVY, the course and distance are W. by N. two leagues. At a mile and a half westward from St. Lawrence's church in St. Patrick's Hole. (See page 124.) Here in about 10 fathoms is the fair-way to tack from. The depth in the middle is 13 fathoms.

From off POINT LEVY to QUEBEC, the course is W.S.W., and the distance about two miles. The shoals of Beauport, on the north side, may be easily avoided; in

standing toward them, advance no nearer than in 10 fathoms, as they are steep-to, and are, in some parts, studded with rocks.

Ships arriving at Quebec, with flood tide and an easterly wind, should take in their canvas in time, and have cable ready, as the ground in the basin is not very good for holding, the water being deep, and the tides strong, particularly spring-tides.

If obliged to come-to in the middle, there will be found from 16 to 20 fathoms abreast of the town; but near the wharfs, or at 2 cables' length from them, is a depth of 11 fathoms; and here vessels are easily brought up; but, in the offing, 16 fathoms of cable will be required. On the Point Levy side is a depth of nearly 30 fathoms, and the tides are stronger here than near the wharfs. With the wind heavy from the eastward, the best riding will be above the wharfs, off the cove called Diamond Harbour, in the depth of 10 fathoms.

The BALLAST GROUND, or place appointed by law for heaving out the ballast in, is to the westward of two beacons fixed on the south shore, above Quebec. These beacons stand on the brow of a hill, above a cove called Charles Cove, and when in a line bear S.E.

QUEBEC HARBOUR may be considered as extending from off the river St. Charles up to the Chaudière river, a distance of 5 or 6 miles, which all through the navigable season is thickly occupied by vessels employed in the timber trade, for the most part lying alongside the numerous wharves and blocks for embarking lumber, and consequently out of the stream.

But sometimes the spring or fall fleet arrives to the amount of several hundred sail together; and then, before they have had time to take their places for loading, the river is so crowded with shipping, that it is difficult to find a clear berth. A gale of wind occurring under such circumstances, is sure to do damage, since the water is deep, the ground (sand and gravel) not good, the tide strong, and the vessels often carelessly anchored.

A great annoyance to vessels at anchor off Quebec, are the large and heavy rafts of timber so frequently dropping down with the strong ebb-tide. These often get athwart hawse of vessels, and are almost certain to do them injury, either by forcing them from their anchorage or otherwise.

Docks.—For the repairs of vessels, there are at present (1860) in the harbour of Quebec four floating docks, and five gridirons. The docks are capable of receiving vessels from 1,000 to 1,200 tons, and one of them will admit a vessel of 225 feet keel, whatever may be her tonnage. One of the gridirons will receive ships of 1,800 tons. There is also a patent slip at Levi Point, opposite the city.

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PART III.

WESTERN COASTS OF THE GULF OF ST. LAWRENCE, BRETON ISLAND, ETC.

I. THE EASTERN COAST OF NEW BRUNSWICK, ETC.

The coast to the westward of Cape Rosier is described on page 108. The coasts to the south and eastward of it, as far as the Gut of Canso, inclusive, will be comprised in the present section,

CAPE ROZIER, which bears N. $\frac{1}{2}$ E. nearly 7 miles from Cape Gaspé, is low, and of greywacké and slate rocks. The shoal water does not extend off it above one-third of a mile, but in the bay to the southward of it, at the distance of $1\frac{1}{2}$ miles, there is a reef which runs out half a mile from the shore. Vessels may find shelter under Cape Rozier from north-west winds, but the ground is not very good, and the easterly swell that frequently rolls in renders it a dangerous anchorage. There are fishing establishments on the cape, and in its vicinity.

Light.—The lighthouse on Cape Rozier is a circular tower of white stone, 112 feet high. It exhibits at an elevation of 136 feet above the level of the sea a *fixed white* light of the first order, which is visible in clear weather from a distance of 16 miles. The light is shown from the 1st of April to the 15th of December of each year.

CAPE GASPE, 7 miles S. $\frac{1}{4}$ W. from Cape Rosier, in lat. $41^{\circ} 45' 10''$, and long. $64^{\circ} 9' 22''$, is a most remarkable cape, standing out bold like a step, and having on its N.E. side a magnificent range of cliffs, 692 feet in height. Close off the S.E. extremity of the cape there was, until within a few years, a white rock, which was a very remarkable object; it was called the *Flower Pot*, *Sail Rock*, or *Old Woman*. The action of the waves and the ice had so worn away its base, that it has fallen down. The cliffs around are also so undermined, that in some parts they are overhanging, and the rocks fall down in large quantities.

GASPE BAY is the finest and best harbour in the Gulf of St. Lawrence; the only danger to be avoided being a spit of sand on the south shore, which forms a basin. The bay is steep-to on the east, and there can be no trusting to the lead. The entrance is formed by *Cape Gaspé* on the north, and *Point Peter*, or *Flat Point*, on the south. In the Bay, at the distance of 11 miles from the entrance, within a point on the southern side, near its head, is an excellent anchorage, in from 9 to 12 fathoms of water, sheltered from all winds. There is, also, good anchorage with westerly winds, off *Louisa Cove*, on the western side of the bay, at about 6 miles N.W. by W. from Cape Gaspé, in 9 or 10 fathoms. Throughout the bay there is deep water; nearly 50 to 40 fathoms in the middle, and 20 very near the shore on the eastern side; on the western side it shoalens more gradually toward the coast. The tide flows until 2h. 30m. on the full and change.

The shores of Gaspé Bay are elevated and the settlers upon them nearly all fishermen; the north-east side is thickly covered with their houses. *Douglas Town* is at the entrance of the River St. John, on the south side of the bay.

The entrance of the Basin of Gaspé, whether viewed from without or within, is most beautiful; wooded undulating hills rise to the height of 500 feet on either side. Their sides display the bright green fields of a humid climate, composing the farms of the principal families at Gaspé.

On proceeding to Gaspé to report or clear, it is not necessary to go farther up the
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Bay than the town of Douglas, which is about six miles below Gaspé, there to anchor in 8 or 9 fathoms, and thence go up in the boat.

Here, in the summer, are almost regular sea and land breezes. The sea-breeze sets in about ten o'clock in the morning, and continues till about sunset; it then falls, and the land-breeze springs up about ten at night.

At Grand Grève, $3\frac{1}{2}$ miles within Cape Gaspé, the ridge of land narrows and dips, so that there is a portage across it, leading to the settlements at Cape Rosier.

The *Seal Rocks*, with 4 feet least water, are $6\frac{1}{2}$ miles within Cape Gaspé, one mile S.E. by S. from Cape Brulé, and half a mile off shore. They are the only detached danger in the bay, and when on their outer edge, Cape Brulé is in one with the next cliffy point up the bay; and this only mark is sufficient for the safety of vessels beating, for the rocks are out of the way with fair winds.

Further up the bay, on the north side, is the *Peninsula*, which is a low sand, covered with spruce trees, and it has several whale-sheds near its west point. About a mile southward of it is *Sandy-beach Point*, a very low and narrow point of sand, extending from the N.E. side of Cape Haldimand on the south-west side of the bay, and which completely shelters the Harbour, which is within it; on the extremity of the shoal water off the point is a white buoy.

The Harbour is divided into the N.W. and S.W. arms. The deep-water entrance of the S.W. arm is called the Basin of Gaspé, and it will hold a large number of vessels in perfect security. The collector of customs, and the principal families, reside on the shores of the Basin, the inhabitants of which, generally, are farmers.

"Gaspé Bay is deep, and open to the S.E., but, from the fishermen's account, it scarce blows home from that quarter. There is good anchorage off Douglas Town, with Cape Haldimand bearing N. by W., in 7 fathoms water, about a mile and a-half from the town.

"The Basin of Gaspé is a most secure place, but the entrance is rather narrow and difficult. From Cape Haldimand a long sandy point stretches nearly across to the N.W. On the north shore, a little above Sandy-beach Point, is another sandy point, on which there are some wooden whale-sheds. By bring the end of the trees over the Whale-shed Point on with the next point to the northward, which is covered with trees, it will lead you past Sandy-beach Point in 11 fathoms. This is a very good and plain mark; but, in coming into the harbour, it is requisite to run well to the northward to bring it on. When Douglas Town shuts in with Cape Haldimand, get the marks on as soon as possible, and you will be quite safe.

"In working, the leading marks should only be brought on when standing toward Sandy-beach. On standing to the northward you may go by the lead, but to the southward it is of little use.

"The Seal Rocks are about three miles from the Sandy Point, and about half a mile from the north shore. When you bring Douglas Town on with Cape Haldimand, you will be well to the westward of them, and may bring the leading mark on. On the southern extremity of the Sandy Beach stands a small wooden wind-mill; when you bring this on with the west side of the point, you may haul up from the Basin.

"DIRECTIONS FOR ENTERING THE BASIN.—From the fair-way between Whale-shed and Sandy-beach Point, a course W. $\frac{1}{2}$ S. will lead you to the entrance. Give a berth to the south shore till you get abreast the bluff on the north side, off which, at three-quarters of a cable, you will have 5 fathoms. The shoal water extends a cable and a half off shore, from abreast the first house on the north side, which is built of stone, and is the only stone house in the place. Run in a line up to the north point of the entrance, by keeping in 5 fathoms on the north shore, and giving a small berth to the north point. You may run in without any difficulty, but must always beware of the south point at the entrance, off which the shoal water extends to some distance.

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" DIRECTIONS FOR LEAVING THE HARBOUR.—The high land at the back of the Basin forms a saddle, which is very distinct and easily seen. By bringing the houses on the south point at the entrance on with the saddle, bearing W. $\frac{1}{2}$ S., it will lead you between Sandy Beach and Whale-shed Point in 12 fathoms, until the end of the trees on Whale-shed Point comes on with the next point to the northward, which is the leading mark past the shoal. When these two marks are on, the windmill on Sandy Beach will be in one with the west point of the beach, which is the mark for hauling up for the Basin when coming in, but is a bad mark on going out.

" WORKING INTO THE HARBOUR.—In standing to the northward you can go by the lead, as the water shoalens gradually; but in standing toward Sandy Beach, tack when the leading mark comes on; that is, tack when the end of the trees on Whale-shed Point comes on with the next point northward of it, until the saddle comes on with the houses at the S, entrance of the Basin, and vice-versa.

" The shoal water extends about 600 yards from Sandy Beach; and from the high-water mark on Sandy-beach Point to the entrance of the Basin is N. 78° W. $\frac{1}{4}$ miles. Whale-shed Point is quite bold; you may approach it to half a cable.

" You may anchor anywhere in the harbour in from 5 to 11 fathoms, muddy bottom; but remember, in running up for the Basin, approach no nearer the south shore than in 5 fathoms with a large ship, until you get abreast the bluff on the north side; then the south side is bold, when you are within half a mile within Sandy-beach Point the leading marks are of no use; then go by the lead."

DIRECTIONS FOR GASPÉ by Mr. JEFFERY, R.N., and Commander DUNSTERVILLE.—In proceeding up to Gaspé Harbour, keep the starboard shore on board, and you will soon raise a long low tongue of shingly beach on the port bow, which is about a mile in extent from the western shore; this forms a most excellent and secure basin of several miles in extent. In rounding the point of beach, give it a berth of a quarter of a mile, in order to avoid a shallow spit which extends from it. On proceeding upward you will open the harbour. The entrance of this is very narrow, with depths of 7 to 5 fathoms; but unless you have a fair wind, you must anchor at the entrance and work in, when you will be sheltered from all winds. Off the south point point stretches a long spit of gravel, with from 3 to 8 feet over it, extending nearly two-thirds of the channel across. In 1831 there was a beacon on its extremity. High water, on the full and change, at 3h. Rise, 3 feet. The winds, in fine weather, land and sea breezes; but when heavy dew falls, with west or northerly winds, the pilots say 'We shall have a southerly wind in a few hours.' I have frequently noticed it.

The current down the St. Lawrence runs strongly past Cape Gaspé, especially during the ebb tide, and at times causes a bad sea, which will make a vessel quite unmanageable in light winds. The soundings off this part of the coast will be very useful, especially in fogs. Off Cape Gaspé, and in the same direction, are several rocky patches, one of which at 5 miles off is known as the *Norwich Bank*, with 15 fathoms water.

MAL BAY.—From *Point Peter*, the south point of Gaspé Bay, off which there is a little islet, called *Flat Island*, the bearing and distance to *Bonaventure Island* are S. by W. $\frac{1}{4}$ W. 6 miles. Between lies the bay called *Mal Bay* or *Cod Bay*, which is nearly 5 miles in width.

Mal Bay has a clean sandy bottom, and there is good riding in ten fathoms, with the wind off shore. Should a ship be caught here with wind from the eastward, she can either run up off Gaspé Bay (if not able to clear the land), or run to the southward between Bonaventure and Percé Islets, towards Chaleur Bay; only taking care to avoid the *Leander Rock*, which lies off Cape Despair.

From Percé, along Mal Bay, to Point Peter, there is an excellent beach for fishing, part of which is named *La Belle Anse*, otherwise *Lobster Beach*; close to this place is the house of the late Governor Coxe.

The town of Percé, situate on the southern side of Mal Bay, between the Percé Rock and White Head, is inhabited principally by fishermen, and has a gaol and court-house. In front of it the beach is convenient for the curing of fish, and off it are some of the best banks for catching them.

At Percé the scenery is most beautiful. The Percé Mountain is 1235 feet in height above the sea, from which it rises abruptly on the north side, where the precipices of red sandstone and limestone, 670 feet high, are washed by the waves. The remarkable shapes of this mountain, the Percé Rock, and Bonaventure Island, with its red cliffs, the fields, houses, and fishing establishments, form altogether a beautiful picture.

There is much diversity and beauty in the features of the country about Gaspé and Percé. Mountains of the height of from 1,000 to 2,000 feet, with great variety of form, are seen in the head of Gaspé Bay, dividing it into arms, and forming fertile valleys, in which are farms requiring cultivation only to amply repay the labour of the farmer. These mountains are of secondary rocks, sandstones, and shells, and are wooded to their summits.

Bonaventure Island, which lies at a mile and a quarter to the eastward of the point of Percé, is very high, particularly the eastern point, which is nearly perpendicular. This is little better than a barren rock, but yet a few persons are hardy enough to winter on it, for the sake of retaining possession of the fishing places they have occupied during the summer. Near the point stands the *Percé Islet* or *Rock*, a most remarkable barren white rock, which at a distance resembles a citadel. From the main to this rock extends a bank, which is nearly dry at low water; but between the rock and Bonaventure Isle is a good deep channel with anchorage.

The Percé Rock is precipitous, nearly inaccessible, 288 feet high, and about 1,200 feet in length. The sea has formed through it three natural arches; the central sufficiently large to admit a boat under sail to pass through it. The roof of the outer one fell in in 1845. In the spring the inhabitants ascend this rock for eggs, and in the autumn for the fine natural grass which grows on its summit; although the ascent, by means of ropes and poles, is both difficult and dangerous.

Nearly 2 miles S.S.E. from Cape Despair lies the sunken rock, called the *Leander Shoal*, over which there is a depth of 16 feet of water in one spot. As this rock lies in the fair-way of ships coming from the northward, with northerly winds, for Chaleur Bay, it should be avoided by giving the cape a berth of 3 miles. The leading marks for it are as follow:—The line of the White Head in one with the inner or N.W. end of Percé Rock, just passes outside of the shoal in 7 fathoms; therefore, the whole of Percé Rock well open to the eastward of the outside of White Head, will lead clear outside of all. From half to the whole of the Percé Rock shut in behind the White Head, will lead clear between it and Cape Despair.

Pabou.—The bearing and distance from Cape Despair to Point Macquereau are W.S.W. $\frac{1}{4}$ W. 19 miles. Between these points lie the two coves called *Pabos* and *Petite Pabos*, or Pabou and Little Pabou, as shown on the Chart.

On the western side of the entrance of Pabou Harbour is a small village; and, on the opposite side, on a projecting point, stand the summer habitations of the fishermen, as they are usually termed. Several streams descend into this harbour from a numerous chain of small lakes to the north-westward. *Newport*, another fishing place, is $3\frac{1}{2}$ miles to the S.W.

Port Daniel.—Next to the westward of Pabou is the township and inlet of Port Daniel, where vessels may find convenient shelter during westerly and north-westerly winds.

Port Daniel is open to winds from East to S.S.W. H.M. sloop *Ranger*, in 1831, anchored in 7 fathoms, with the west point of the entrance (to which a berth must be given) S.W. $\frac{1}{4}$ W., about a mile and a half. The starboard shore is quite bold. A

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few descendants of French peasantry, who cannot speak English, reside here; they exist by cod-fishing, though a few salmon are occasionally caught. The fish, when cured, are disposed of at Paspebiac, or New Carlisle, to the S.W., where there is a store belonging to Guernsey merchants. The time of high water here, on the full and change, is 2h. 0m. The tide rises 4 feet.

Paspebiac.—At Paspebiac above mentioned, six leagues to the south-westward of Port Daniel, is a good anchorage, sheltered from the N.W. round by the eastward to S.E. by the main land, and a long spit of beach, off which, to the westward, nearly a mile, extends a spit of hard ground, having from $1\frac{1}{2}$ to 2 fathoms over it. In order to avoid the latter, on coming from the eastward, do not haul in for the anchorage till the Protestant church, which is the westernmost, is brought to bear N.N.E. $\frac{1}{2}$ E.; then anchor, according to the draught of the vessel, in 6 to 4 fathoms, stiff clay, with the south point of the beach from E.S.E. to S.E.; the Protestant church N.E. $\frac{1}{2}$ N.; off shore a quarter of a mile or less. Watering is excellent, from half-tide, by filling in the boats by your own hoses. The water comes from a rock, is considered very good for keeping, and is gained without expense. It is situated nearly off the centre of the anchorage. The winds were light, from the southward and eastward, during the stay of the *Ranger*, in fine weather. The land on this side of Chaleur Bay is high; it is the same hence to Percé and Bonaventure Island. At the latter place, the winds, in the summer season, differ as much as eight points from those in Chaleur Bay. —*Captain Dunsterville, R.N.*

CHALEUR BAY.—Point Macquereau and Miscou Island form the entrance of Chaleur Bay, and bear from each other S. $\frac{1}{2}$ E. and N. $\frac{1}{2}$ W. distant $4\frac{1}{2}$ leagues. From the entrance of Chaleur Bay to that of Ristigouche Harbour, which is at its head, the distance, on a West and N.W. by W. course, is 22 leagues. The bay is of moderate depth near the shore on both sides, and has, toward the middle, from 45 to 20 fathoms of water.

The town of NEW CARLISLE, on the harbour of Paspebiac, is the principal town of Chaleur Bay; it is situate in Coxe Township, on the north shore, as shown in the Chart; and is so laid out as to become hereafter a compact and regular little place. The number of houses is about fifty, all of wood: it has a court-house and gaol. The situation is very healthy, and the surrounding lands some of the most fertile in the district. In front is an excellent beach, as above described, where the fish is cured and dried.

In the adjoining township of *Hamilton*, on the west, is the village of *Bonaventure*, containing about twenty-five houses and a church, on level ground. It is entirely dependent on the fishery.

Cascapediac.—From Bonaventure the land turns to N.W. by N. to *Cascapediac Bay*, on the west side of which is *Mount Carleton*, 1830 feet high; the shore is iron-bound, and has several rivulets of fresh water. Within the bay is anchorage in 4, 5, and 6 fathoms water. The head of the bay is shoal, into which the *River Cascapediac* empties itself.

Ristigouche.—In Ristigouche Harbour, at the head of Chaleur Bay, there is good anchorage in from 8 to 12 fathoms, land-locked from all winds; but it is so difficult of access, that it should not be attempted without a pilot. The tide flows here, on full and change, until 3 o'clock, and its vertical rise is $6\frac{1}{2}$ or 7 feet.

Miscou Island Light.—The lighthouse erected on Birch Point, the north-east extreme of Miscou Island, is a wooden octagon-shaped building, 74 feet high, and painted red. It exhibits a *fixed red light*, which is of the greatest assistance to vessels rounding this low island at night, and especially to the numerous fishing schooners which frequent Miscou Harbour. It is elevated 79 feet above the level of high water, and in clear weather is visible from a distance of 12 miles; it is seen from the westward over the island.

Vessels bound into Chaleur Bay should make for Miscou Island, which they can round by the lead, for it shoalens gradually from 20 to 3 fathoms, the latter depth being near Miscou Point; should it be foggy, which in summer time is frequently the case, it will be advisable to steer from thence toward the northern shore, bearing

about W.N.W., when you most probably fall in with *Nouvelle Harbour*. Here stands a church, upon some rising ground to the northward of the town or village, which is built along the beach, and lies low. Proceeding westward up Chaleur Bay from hence, you will pass round the low point of Paspebiac, above mentioned, and reach New Carlisle. Having got abreast of this, if you are bound to Nipisighit Bay, or St. Peter's, then by keeping on the northern shore as thus directed, you will readily know how far you have proceeded up the bay, and may then haul across with greater certainty for the land, between Caraquette Point and Cape Idas, which you may approach to, by the lead, without the least danger.

The land on the northern shores of Chaleur Bay is in a high state of cultivation, when compared with the southern shores; and this, perhaps, is the principal cause why the fogs that obscure it are less heavy on the former than on the latter.

The distance from the north point of Miscou Island to the south point of Shippigan is 19 miles: the course is nearly S.W. by S. From the south point of Shippigan to Tracadie, the course and distance are S.W. $\frac{1}{2}$ S. 4 leagues. From Tracadie to Point Escuminac, on the south side of the entrance of *Miramichi Bay*, the course is S. by W. $\frac{1}{2}$ W., distance 9 leagues.

The land from Miscou Island to the entrance *Miramichi Bay* is low, as well as the southern side of Chaleur Bay. Point Escuminac, on the south side of *Miramichi Bay*, is likewise low, but a lighthouse is erected on it, by which it may be known; and pilot-boats invariably come off from this place. Miscou Island, on the north and east sides, should be approached with caution by the lead; say not nearer than in two miles and a half, and in 7 fathoms. The *Ranger* anchored in 10 fathoms, with the north point of Miscou E. $\frac{1}{2}$ N. about three miles. Here it is high water, on the full and change, at 2^h., and the flood sets in to the S.W., about one mile an hour.

MIRAMICHI BAY is nearly 14 miles wide from the sand-bars off Blackland Point to Escuminac Point, and $6\frac{1}{2}$ miles deep from that line across its mouth to the main entrance of the *Miramichi*, between Portage and Fox Islands. The bay is formed by a semicircular range of low sandy islands, between which there are three small passages and one main or ship channel, leading into the Inner Bay or Estuary, of the *Miramichi*.

Miramichi is a large harbour and free warehousing port, in the mouth of which there are several islands; between the northernmost of these islands, called Waltham or Portage Island, and the next to it, called Fox Island, is the passage into the bay, which is intricate and shallow at low water. Hence it is requisite to have a pilot. The pilots' houses stand within Escuminac Point, and sometimes pilots for this place may be found in the Gut of Canso. It is the more necessary to have a pilot, as the bar shifts considerably, and directions will not be accurate for any considerable period.

Miramichi River is considered by Admiral Bayfield as second to the St. Lawrence. Nineteen feet can be carried into the river in ordinary spring-tides, and twenty or twenty-one feet by watching for opportunities.

Miramichi is a place of some importance; the great fire of 1823 gave a severe blow to its prosperity. Vessels load during the season with timber, at the several towns and settlements on its banks. The attention of the population is almost entirely turned to the timber trade, although the salmon and gaspereaux fisheries are carried on in their season. The improvement of the natural capabilities of the country is but little attended to.

Chatham, the port and principal town on the river, stands on the south bank, at 20 miles from the entrance; and the town of *Newcastle* is about four miles higher up, on the opposite bank.

From the northern part of Miscou Island to Escuminac Point, the soundings are regular; and, in thick weather, the shore may be approached by the lead to the depth of 12 or 10 fathoms.

Light.—There is now a *fixed light* exhibited on Escuminac Point from an octagonal wooden tower painted white at an elevation of 70 feet.

From Escuminac Point to the entrance of Richibucto Harbour, the course and distance are S. by W. $\frac{1}{2}$ W. 7 leagues; from Richibucto Harbour to the entrance of Buctouche, S. $\frac{1}{2}$ W. 19 miles; from Buctouche to Cocagne Harbour, S. $\frac{1}{2}$ E. 5 miles; from Cocagne to Shediac Harbour, the distance is $2\frac{1}{2}$ leagues. From Shediac to Cape Tormentine, the coast trends S.E. by E. $\frac{1}{2}$ E. 10 leagues. The harbours here mentioned are not of sufficient depth to admit large ships for a lading.

No part of the bar extends to seaward so much as a mile from the shore, and it may be safely approached by the lead to 6 fathoms water, at any time of tide; but for the purpose of anchorage 9 fathoms is a better depth, the bottom being there of fine brown and gray sand, affording far better holding ground than farther in-shore. The situation of the narrow channel over the bar ($1\frac{1}{2}$ miles E.S.E. from the river's mouth) is indicated by two *white beacons* on the south beach, and by a large *black buoy* moored off in $3\frac{3}{4}$ or 4 fathoms at low water, with the two beacons in line, bearing (in 1839) W. by S. $\frac{1}{2}$ S. distant not quite a mile. These beacons in line always lead always lead in over the bar, being shifted as required almost every spring, in consequence of changes in the channel effected by heavy north-east gales. The North beacon, which stands on a sand-hill, 30 feet high, at the south extremity of the north beach, is large and *white*, being intended to point out the situation of the river to vessels many miles out to sea.

RICHIBUCTO RIVER is of considerable importance, and is annually visited by numerous vessels for timber. The settlements on its banks are rapidly increasing. The bar of the river is exceedingly dangerous, and a pilot is almost indispensable, especially to deeply laden and dull sailing vessels. The depth of water at the entrance of the harbour of Richibucto, in 1828, was, at the best tide, 18 feet, and at the common tide $16\frac{1}{2}$. When off the harbour, in 6 or 8 fathoms of water, vessels run in by keeping the two white beacons in a line, until near the sand-hill, and then run N.W. along the shore, in $2\frac{1}{2}$ to 3 fathoms of water, until they are in safety. A large black buoy is laid down in 4 fathoms, outside the bar, for a guide; which buoy, from seaward, can be seen at more than a league off. Richibucto has a very fine water-communication with the interior country. *Liverpool*, the port town of Richibucto, stands on the western side, at four miles from the bar.

Southward of Richibucto the coast is low, and 18 miles from it is the entrance of *Buctouche Harbour*, and $5\frac{1}{2}$ miles farther is *Cocagne Harbour*.

North Patch of rocks, with 12 feet least water, is small, with 5 fathoms close outside of it. It lies 2 miles off shore on the north-east point of the Outer Bar of the Buctouche, with Cocagne steeple and the north-west extreme of Cocagne Island in line, bearing S.S.W. $\frac{1}{2}$ W.; the south end of Buctouche sand-bar S.W. by W.; and Buctouche steeple seen over the sand-bar N.W. by W. $\frac{1}{2}$ W. Vessels will pass outside of it, if they do not come into less than 5 fathoms at low water.

Shediac Harbour is the easiest of access and egress on this part of the coast, being the only one which a vessel in distress can safely run for, as a harbour of refuge. The depth that can be carried in by a good pilot is 14 feet at low water, and 18 feet at high water in ordinary spring tides; and the bottom in the channel is of mud, as it is also in the harbour within.

The entrance between the north point of the bar and the edge of the shoal water off the island is the narrowest part of the channel, and only $1\frac{1}{2}$ cables wide, from the depth of 12 feet to 12 feet on either side; moreover, there are two or three very small patches, perhaps ballast heaps, of 11 or 12 water, which can only be avoided by the pilots for the place. They generally place stakes and buoys for their own guidance, and according to their own judgment, every year; and their assistance should always be sought.

A canal has been proposed to connect it with the Bay of Fundy, but the surveys have not been completed. A railroad is in operation across to Monckton, which is to be connected with other New Brunswick lines leading to St. John's. Shediac is not as yet a place of much trade.

The coast, for 18 or 20 miles eastward of Shediac is free from danger, and may be safely approached in 6 fathoms, but beyond this to Cape Tormentine there are dangerous off-shore shoals, which require caution.

The *Jourimain Shoals* are extremely dangerous. They extend from Cape Jourimain $1\frac{1}{2}$ miles to N.N.W., and there is a patch of 4 fathoms at $1\frac{1}{2}$ miles north of that point. They should not be approached at night nearer than in 9 fathoms.

CAPE TORMENTINE is a name sometimes applied to the whole, and sometimes to different points, of the great headland which forms the eastern extremity of New Brunswick, within the gulf, and which separates Bay Verte from the rest of the Strait of Northumberland. But it is here restricted to the comparatively high central point. The names of *Indian Point* and *Cape Jourimain* have been adopted for the southern and northern extremities of this promontory, which is a place of great importance in a nautical point of view, not only from its position, but from its dangerous and extensive shoals.

Within Cape Tormentine is the isthmus and boundary between New Brunswick and Nova-Scotia, the narrowest part of which, from the Bay Verte to Cumberland Basin, at the head of Chignecto Bay, is only 12 miles in breadth.

THE NORTHERN COASTS OF NOVA-SCOTIA, ETC.

The general features of the Northern Coast of Nova-Scotia are pleasing: the land low and even, or slightly broken by agreeable inequalities. In the Strait of Northumberland, to an extent, from end to end, of not less than 100 miles, the bottom, in many places nearly level, varies in depth from 20 to 10 fathoms. The bottom is, generally, a stiff red clay, and good holding ground.

Between COGNAC on the west, and the high rock called the BARN, on the east, the shore is, in general, bound with red cliffs and beaches under them. The inland country, between Tatmagouche and the basin of Cobeguid, appears remarkably high to vessels in the offing.

Bay Verte, within Cape Tormentine, is 9 miles wide and 11 deep. It separates the two provinces. The flat isthmus which separates it from Cumberland Basin is 11 miles wide. The shores are lined with flats, formed by the decomposition of the coast; besides which there are several dangerous rocky shoals, *Spear, Heart, Laurent*, and others on the flat which extends for 3 or 4 miles off the north shore, and the *Aggermore Rock*, of 18 feet, lying on the same rocky flat in the middle of the bay. Great caution must therefore be used in entering this bay. The interior, from the bay to Amherst, Cumberland, Tantamaree, &c., is in a highly improved state.

River Philip.—To the southward of Cape Tormentine, at the distance of $\frac{1}{2}$ leagues, is the entrance of the *River Philip*, a bar-harbour, having only 8 feet at the entrance. In advancing toward this place, when in the depth of 5 fathoms, another harbour will be seen on the eastern or port side, which is called *Pugwash*. In the latter, ships drawing 17 feet load timber. This harbour is safe; but the entrance is so narrow as to require a pilot. Ships commonly anchor in 5 fathoms, at 3 miles from shore, with the entrance bearing S.E. High-water at Pugwash at F. and C. $10^h 30^m$; springs rise 7 feet, neaps 4 feet. A reef extends for $\frac{1}{2}$ mile N.W. by W., and in other directions from the Pugwash Point, so that it is unsafe for a ship to go into less than 5 fathoms.

From Cape Tormentine to Cliff Cape, the bearing and distance are S. by E. $\frac{1}{2}$ E. 18 miles; from Cliff Cape to MacKenzie Point S.E. 3 miles; and from Shoal Point to Cape John S.E. by E. 13 miles.

Off MacKenzie Point is *Oak Island*, low and wooded. There is no channel inside it. About this part there are many flourishing farms of the Scotch Highland emigrants, and are termed the *Gulf Shore Settlements*. To the south of Oak Island is *Blue Harbour*, which only carries 8 or 9 feet over the bar. S. of this is *Wolfe*, formerly *Ramsey* Harbour.

WALLACE HARBOUR is the finest on this coast, excepting Pictou, having 16 feet over its bar at low water in ordinary spring tides, which rise 8 feet, so that it is capable of admitting vessels of large draught. Its entrance, $2\frac{1}{2}$ miles W. by S. $\frac{1}{2}$ S. from Oak Island, and between two sandy spits, named Palmer and Caulfield Points, is nearly 2 cables wide, and carries $6\frac{1}{2}$ fathoms water; but the approach to this entrance, over the bar and through the bay for a distance of 3 miles, is by a crooked channel, which, although nowhere less than $1\frac{1}{2}$ cables wide, is, nevertheless, difficult without the aid of buoys or sufficient leading marks. The services of the pilots of the place will, therefore, always be necessary to insure safety.

Wallace, a prettily situated straggling village with its Kirk, stands on the southern shore, $1\frac{1}{2}$ miles within the entrance of the harbour.

Wallace, under the name of *Ramsheg*, was formerly visited annually by many more vessels than at present, the supply of lumber being then much greater; at present only a few cargoes are embarked, and two or three vessels built there every year. But, in proportion as the timber trade decreases, more attention is paid to agriculture, which is said to be improving, and the settlements increasing in the neighbourhood.

TATMAGOUCHE.—At 6 miles S.E. by E. from Oak Island is *Saddle Island*, low and wooded. *Saddle Reef*, very dangerous, runs out from its East point for 1 mile, and on it is the *Wash-ball Rock*, dry at low water $\frac{1}{2}$ mile from the island. Treven Bluff just open to northward of Saddle Island W. $\frac{1}{2}$ N. clears the reef in 4 fathoms.

Tatmagouche Bay, $2\frac{1}{2}$ miles wide at entrance, between *Mullegash Point* and *Brulé Peninsula*, runs in 7 miles to the westward, affording everywhere good anchorage over a bottom of soft mud, but with insufficient depth of water for large ships far up the bay. From 5 fathoms at entrance the depth decreases to 3 fathoms at the distance of $1\frac{1}{2}$ miles up the bay, and to 2 fathoms at 4 miles, the remainder being all shallow, and in part dry at low water, with the exception of boat channels leading to the Basin and to Millbrook. The only detached danger in the bay is a rock with 7 feet least water, lying $3\frac{1}{2}$ cables off the northern shore, and 2 miles in from Mullegash Point; Amet Isle and Mullegash Point touching, and bearing E.N.E. will lead a cable to the southward of it. A stranger may safely approach to the low-water depth of 3 fathoms in the outer part of the bay, and to $2\frac{1}{2}$ fathoms further in; but in entering should keep well over to the northward, to avoid the Brulé Shoals.

In coming from the eastward, when between Amet Island and Cape John, your course toward River John will be W. by S. In passing between the island cape, you will have $4\frac{1}{2}$ fathoms, until you open the River John, on the port side. You will then have 7, 8, and 9 fathoms; and, if bound for this river, or for Tatmagouche, may obtain a pilot by making the usual signal. There is anchorage at 2 miles from shore.

The *Ranger*, in 1831, anchored off Cape John in $9\frac{1}{2}$ fathoms, with Amet Island W. by S. 3 to 4 miles. She passed over a ledge of rocky bottom, having over it $2\frac{1}{2}$ to 5 fathoms, at about two miles to the eastward of the island, and on which lobsters abounded.

Within the Bay on *Tatmagouche River* in the S.W. corner, on the entrance of which is a ship-building yard. To the E. of this, 3 miles distant, is *Barachais Harbour*, seldom visited. It is separated from *Brulé Harbour* by the wooded peninsula, which at a distance appears like an island. *John Bay*, in its eastern part requires caution as the shoals on its shores are often very steep, but there is no detached danger. There are flourishing settlements on the river which enters at its head.

Amet Sound affords excellent anchorage, but the three channels which lead into it are separated by dangerous shoals, of which the *Waugh Shoal* and the *Amet Island and Shoals* are the chief.

Tides.—On any part of this coast you may anchor in the summer season. It is high water in the offing at 10 o'clock, and the rise is from 6 to 7 feet. The stream of flood sets to the N.W. as far as Cape Tormentine, expending its strength in the

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Bay Verte; but from Miramichi and Cape North (Prince Edward Island), the flood sets to the southward, about two knots an hour (till 9 o'clock), to Cape Tormentine, whence it appears to run toward Hillsboro' Bay. The time of high water off Cape Egmont, full and change, is 10^h. The stream runs two knots in the hour. Vertical rise, 4 feet; the flood sets to the southward. The tides meet at Cape Tormentine, off which the dangerous ledge above mentioned extends to the S.E., and over which the sea generally breaks.

Caribou Harbour.—From Cape John to Caribou Point the course and distance are S.E. by E. $\frac{1}{2}$ E. 19 $\frac{1}{2}$ miles. Here the water gradually shoals to the shore, from the depth of 8 or 9 fathoms, at two miles off. To strangers it may be dangerous to approach Caribou Harbour, as it has frequently been mistaken for Pictou, which lies to the south-westward, and some have run on shore before the error has been discovered. For it is to be observed, that ships are seen riding, not in the entrance of the harbour, but within a sand-bank, stretching from side to side, with not more than 3 or 4 feet over it, and which appears like a good channel. Small vessels load with timber here.

Caribou may be known from Pictou by observing that the hollow land over it appears like a deep inlet; but the high lands of Pictou seem to fold over each other, and blind the entrance. The ledges about Caribou extend more than a mile from shore, and some of them are dry at low water. It is not much used, as Pictou is so much superior to it.

Caribou Channel, between the Caribou Reef and the Pictou Island Bank, has sufficient depth for vessels of the largest draught, and in breadth, at the narrowest part, exceeds a half or one-third of a mile, according as it is conceived to be bounded on either side by the 3 fathoms, or the 5 fathoms line; but it is nevertheless difficult, because so crooked that no marks can lead through its whole extent.

Pictou Island Bank extends from Pictou Island to the west and south $3\frac{1}{2}$ miles, and was supposed to reach across the whole distance of 4 miles to Caribou Point, before the channel last mentioned was known. It is of irregular outline, of great extent, and of sandstone thinly covered with sand gravel, mud, and broken shells. The depths are as irregular as the nature of the bottom, being from $2\frac{1}{2}$ to 6 fathoms, excepting on the *Middle Shoals*, a chain of rocky patches, with 11 feet least water stretching across the northern part of the bank, $1\frac{1}{2}$ miles, in a S.W. direction.

PICTOU ISLAND, which lies off the entrances of Pictou and Merigomish, is cultivated, and contains about 3,000 acres. Fine quarries of freestone have been opened here, and strong traces of coal are visible in several places about the cliffs. From the east end a spit of rocks extends about a mile; and, at the E.N.E. from it, one league and a half, is a shoal of 21 feet. Between the island and Merigomish the bottom is muddy, and the depth from 11 to 7 fathoms.

PICTOU.—Pictou Harbour is the principal port of the north coast of Nova Scotia. It has a bar at its mouth, of 15 feet, inside of which is a capacious and beautiful basin, with 5, 6, and 9 fathoms, muddy bottom. The town is situated at about three miles from the entrance, and many houses are built of stone. It contains three churches.

Within the bar and the beach, the water deepens to 5, 6, and 7 fathoms, muddy bottom. This depth continues up to the town, opposite to which a mud flat extends outward so far as to leave the channel midway between the two shores. Above the town the river divides into three branches, the *East*, *Middle*, and *West Rivers*, as shown in the Chart.

The *East Arm* is navigable by vessels to the distance of $2\frac{1}{2}$ miles from Pictou, to the coal-loading place, or railway terminus from the Albion mines. Its channel, which joins the harbour directly opposite Pictou, is of the average breadth of 180 yards, and marked out by spruce-bush stakes driven into the mud flats at intervals on either side. Half a mile below the loading place a bar of hard ground, with 12 feet at low water, crosses the channel; and therefore vessels must not be laden to draw more than 15 feet in neap and 18 feet in spring tides. At a short distance

above the leading place the channel is so divided and obstructed by old oyster beds, that it is difficult to carry the depth of 3 or 4 feet through at low water; and similar obstructions occur several times up to the bridge at *New Glasgow*, $6\frac{1}{2}$ miles from Pictou, and 2 from the coal pits.

At 9 miles above the town of Pictou are the well-known coal-pits, the produce of which is brought down to the bar in large flat boats. The Middle and West Rivers are navigable upward to a considerable distance.

The town of Walmely, on the north side of this harbour, is the residence of the principal merchants who load timber in these parts.

LIGHTS.—The lighthouse, standing close to the water at the extremity of the spit forming the south side of the entrance to Pictou harbour, is an octagon building of wood, 55 feet high, and painted vertically with red and white stripes. It shows, at an elevation of 55 feet above the level of high water, a *fixed white light*, which is visible in clear weather at 12 miles. A small *fixed red light* is seen below the lantern.

A circumstance, which has often caused serious loss and damage to vessels navigating the coasts of Nova Scotia and New Brunswick, in the spring months, should be attended to.

The farms fronting the sea-coast are separated by worm fences, which in most cases are at right angles to the coast line; and when their direction happens to be such that the prevalent snow-storms in winter cause a deposition, often several feet in height, to leeward of them, which continues some weeks after the disappearance of the snow from the fields themselves, they are exactly similar in appearance to the lighthouses on the coast, which latter are mostly built of wood, and were painted white; and so perfect is the resemblance, that the masters of coasters, and persons well acquainted with the coast, are themselves often misled.—*Lieut. Kendall, R. N., 1838.* The lighthouses are now distinguishable, from their being painted with black or red stripes, as described.

The bay is $1\frac{1}{2}$ miles wide at its entrance, from Logan Point to Mackenzie head, and $1\frac{1}{2}$ miles deep. Mackenzie head will be recognized by its sharp pointed cliff of clay and sandstone 43 feet high, and by its bearing nearly South from Logan Point.

Mackenzie Shoal lies N.E. by E. from Mackenzie Head, its outer edge being distant seven-eighths of a mile. It is a rocky bank nearly one-third of a mile in diameter, with 16 feet least water, and with 19 or 20 feet between it and the shallow water to the westward. Vessels of large draught should not attempt to pass within or to the southward and westward of it.

The distance across the harbour's mouth from the lighthouse on the sandy spit to Loudon beach is about $2\frac{1}{2}$ cables, and the greatest depth is 7 fathoms water; but the channel over the Inner Bar is much narrower, and has besides a turn in it, which, together with the necessity of knowing exactly the set of the tides, renders a pilot indispensable in a large ship. Vessels running for the harbour must first pass the Outer Bar, which stretches from Logan Point to Mackenzie Head, and has 21 feet at low water over a bottom of sand. After passing this bar, the depth will increase to 4, 5, and 6 fathoms in the distance of about a mile, and then suddenly decrease to 19 feet on the Inner Bar, which is also of sand, and distant about 4 cables from the lighthouse. After passing the Inner Bar, which is not above a long cable wide, the water continues deep to the entrance of the harbour.

There is good anchorage between the bars, although exposed to north-east winds, and also in Pictou Road, which is outside the Outer Bar, and where the depth is 6 fathoms, with clay and mud bottom. Vessels running or beating up to this road at night will find the soundings in the chart sufficient guidance, when keeping the southern shore aboard with the prevailing south-west winds.

The Harbour of Pictou is capable of containing ships of any burthen. The mark for running over the Bar, and clearing a spit of gravel, that extends from the northern point of the entrance of the bay that forms the harbour, is a stone on the south point

of the town, just within the spit of low gravelly beach on the southern side of the entrance into the harbour. Dr. Dunsterville, in H.M.S. *Ranger*, turned in, with the stern from end to end of the beach, and had from 3 to 4½ fathoms. The beach to the northward of the narrows is very bold; and as you approach the town, in beating up, do not approach the southern shore into less than 4 fathoms in a large ship, as a shoal bank extends nearly one-third of the channel across.

"With a fair wind you borrow on the north shore, where the water is deepest, carrying from 6 to 8 fathoms, muddy bottom, and anchoring off a stake, near the south end of the town, in 7 fathoms."—*Mr. Dunsterville.*

"The best anchorage in Pictou Roads is in 7 fathoms, with the following bearings:—the lighthouse west; Point Caribou north; and the Roaring Bull Point S.E.; the latter is a high bluff, pointing to the southward, and has a small white house on the slope. From this bluff a reef extends north three cables' length, and from Point Caribou another, west, nearly half a mile. Here you are sheltered completely from the S.E. by the S., round to north, and, in a great measure, as far as N.E. by the island and reefs off it. In fact, the only winds that throw in any sea, are those from the S.E. by E. to N.E. by E. and they are fair for running into the harbour, which may be attempted, in almost any weather, by ships drawing from 18 to 20 feet.

"To run in, bring the small white house to the left of the lighthouse, and close to it, on with a long building appearing off the starboard point of the harbour (it lies to the left of a small but remarkable gap in the N.W. land), bearing W. ½ N.; keep then on until Roaring Bull Point begins to be shut in with the east land, by which time you will be pretty close to the low sandy beach on which the lighthouse stands; then haul over to the northward, toward a bushy tree, standing by itself on the north shore, until you are in mid-channel between it and the lighthouse point. You may then proceed up the harbour, west, in mid-channel, toward the point with the building, above mentioned, and, rounding it at a convenient distance, anchor at pleasure, off the town, in 7 or 8 fathoms. Or, if only taking the harbour for shelter, you may anchor anywhere within the lighthouse, in mid-channel. The holding ground is excellent, and you are here secure from all winds.

"On the inner bar, at high water, spring tides are from 22 to 23 feet of water; on the outer bar, 5 fathoms; between the bars, 7 and 8 fathoms. The tide, on full and change, flows at 10^h, and rises from 6 to 8 feet, according to the wind: neaps rise from 3 to 5 feet. The lighthouse is painted red and white, in vertical stripes, and is very conspicuous for showing a *fixed light*; besides this, as above said, there is a small red light shown below it.

"In order to proceed in the night, with a vessel of easy draught, bring the light to bear W. ½ N., and steer for it until within about 50 fathoms off it, and then haul round it gradually, at about that distance, not going into less than 3 fathoms.

"Pictou appears to me to be a harbour very easy of access, and very capacious. The roadstead is certainly one of the best in the world, the bottom of clay and mud. There is anchorage under Pictou Island, but it is by no means to be recommended. This island may be seen from a ship's deck 4 or 5 leagues off; a reef extends from its east end about a mile, and from its west end more than half channel over. The three-fathom bank, marked in some charts, it is said, does not exist.—G. Peacock, Esq., 1839.

It is high-water full and change at 10^h; rise at springs 6 feet, at neaps 4 feet. Twenty-three feet may generally be covered, and with a good tide, 25 feet, may be taken over the bar, but it is with the best of the two tides, the diurnal inequality being very marked.

Merigomish, which is an excellent bar-harbour, lies 7 miles to the E.S.E. of the entrance of Pictou; the merchants of which place have ponds here, for the reception of timber, with which a number of ships are annually laden.

To sail in for this place, bring the lighthouse on the east end of Pictou Island nearly north, and keep it so until off the harbour's mouth, where you may either

obtain a pilot; or anchor in 4 fathoms. A stranger should not venture to enter the harbour without a pilot, as a ledge stretches off from either side; but since the timber has been exhausted, the pilots are incompetent for want of practice. There is a depth of 14 feet on the bar at low water, and the vertical rise of tide is about 8 feet. The depth within is from 4 to 7 fathoms, soft mud.

There is no harbour between *Mergomish* and *Cape St. George*; but the coast is clear, high, and bold, and vessels may sail along it in safety, at the distance of a mile. As a place of refuge for small vessels in distress, there is a pier on the coast at *Arishag*, and at 7 leagues to the eastward of *Pictou*, and a mile west of the indent formed by the rock called the *BARN*. There is good anchorage under *Cape St. George*, in from 10 to 7 fathoms, sheltered from westerly winds.

GEORGE BAY is of great extent, being 13½ miles wide at entrance, between *Cape George* and *Henry Island*, and 20 miles deep, from the same cape to the *Gut of Canso*. It is traversed by all the numerous vessels which pass in or out of the Gulf by its southern entrance, and hence its navigation assumes a more than usual degree of nautical importance.

CAPE GEORGE, the north-west point of this bay, is a bold and precipitous headland, composed principally of slate, conglomerate, and trap rocks, attaining the elevation of 800 feet above the sea. The shallow water does not extend off it beyond a quarter of a mile.

McIsaac Rock, with 9 feet least water, is the centre of a small detached shoal, distant nearly 3 cables from the shore, between *McIsaac Point* and a remarkable patch of white gypsum cliff, and is the only danger on the west side of *George Bay*; it is distant 2½ miles to the northward of the entrance of *Antigonish*, and is shown occasionally by heavy breakers.

Antigonish.—The entrance of the Harbour of *Antigonish* lies 11 miles to S.S.W. from *Cape St. George*. Here small vessels load timber and gypsum, or plaster, of which there is abundance in the neighbourhood; but the harbour is so shoal that even these complete their cargoes without the bay, although the anchorage is not safe. The rivers which fall into this harbour run through many miles of fine land, and the population is considerable.

AT **POMQUET ISLAND**, 6 miles eastward from *Antigonish*, ships of any size may load in safety. In sailing in, when from the northward, leave the island on the starboard side, keeping close to a rock, which appears 5 or 6 feet above water. This rock is steep-to, and lies off the east end of the island. Without it, at the distance of three-quarters of a mile, lie several sunken ledges, which are dangerous. After passing the rock, a bay will open on the starboard side, which you stand into, till you are shut in with the island, where there is anchorage in 3½ fathoms of water, at about half a mile from the island.

At 5 miles eastward of *Pomquet* is *Tracadie*, a harbour with a narrow entrance, with a bar of gravel, which has only 2 feet on it at low water.

Havre Bouché (or *Ambushee*), which lies between *Cape Jack* and the *Gut of Canso*, is a small harbour, occupied by an industrious and thriving people. Here a number of small vessels have been built, carrying from 15 to 50 tons.

Jack Shoal, which is dangerous in thick weather, runs out from *Cape Jack*, the most prominent headland hereabout, and 2 miles West of *Havre Bouché* for 1½ miles to 5 fathoms in a N.E. by N. direction. It has two drying patches on it.

Between *Cape St. George* and the *Gut of Canso*, in fine weather, the winds draw from the southward and south-eastward, and from the cape, which is high, to *Pictou*, from the S.W.; but, in general, near the cape, the winds are very variable. Off the cape, at about a quarter of a mile to the N.E. the pilots say that there is a ledge of sunken rocks, which extends to the northward.

Westward of *Cape St. George*, and hence to *Pictou Island*, sheep and other stock are the same as at *Pictou*. Water cannot always be procured, as the springs dry up occasionally.

THE GUT OF CANSO TO HABITANT BAY.

THE GUT OF CANSO forms the best passage for ships bound to and from Prince Edward Island and other places in the Gulf of St. Lawrence. It is shorter, and has the advantage of anchorage in case of contrary winds or bad weather. Its length is 14 miles, and breadth 4 cables to more than three-quarters of a mile. The east side is low, with beaches, but the west shore is mostly high and rocky; and that part of it called *Cape Porcupine* is remarkably so. The deepest water is on the western shore; but both shores are bold-to, and sound, excepting a *sunken rock*, which lies near a cable's length from the eastern shore, and about midway between the southern entrance of the Gut and Ship Harbour, and two other rocks under-mentioned, *Mill Creek, Gypsum or Plaster Cove, Venus' Creek, Ship Harbour, Holland Cove, and Eddy Cove*, afford excellent anchorage, in a moderate depth, out of the stream of the tide, which generally sets in from the southward, but is very irregular, being influenced by the winds. After strong north-west winds, which happen daily during the fall of the year, the water in the Gulf of St. Lawrence is rendered low, which causes the current to run northward through the Gut, at the rate of 4 or 5 knots, and the contrary happens after southerly winds.

The time of high water in the Gut is 9^h 15^m; springs rise 4, neaps 2 feet; but the tide in the middle runs strongly up and down, at least an hour after high and low water: again, in or after strong winds, the currents appear as if not influenced by the tide, but run sometimes at the rate of 3 or 4 knots.

In the Chart we inserted two rocks in the Gut of Canso, which had not previously been laid down in any chart. They were inserted on the authority of Capt. George Dixon, of London. The first lies near the western side of Gypsum Cove, at the distance of about 60 fathoms from the shore; the other lies at about 100 fathoms without Bear Island, at the S.E. end of the Gulf. On each rock the depth of water is from 6 to 8 feet only.

A Lighthouse, on the western side of the northern end of the Gut, was established in 1842, in lat. 45° 42', and long. 61° 27'. The tower, painted white, stands at 100 yards from the shore, and exhibits a *fixed* light, at 110 feet above the level of the sea. It may be seen at 18 miles off from the greater part of the Bay of St. George, and the shores of Breton Island, as far as Jostice or Port Hood.

There is good anchorage under the lighthouse, with the wind off the land. At half a mile S.E. of it, it is good with all but northerly winds, and vessels frequently wait a tide here.

Opposite Mill Creek, at the upper end of the Gulf, on the Nova Scotia side, you may stop tide, or lie windbound, if it does not overblow. Keep the creek open, and come to anchor in 8 or 10 fathoms, within a cable's length of the steep rocks, on the south side of the creek. The best water is with the creek's mouth open. It will be necessary to carry a hawser on shore to the rocks, to steady the ship, as the tide here runs in eddies. You may obtain fresh water from the creek at low water.

Upon entering the Gut, there will be seen on the port hand a red house, on a point called *Balache Point*, E.S.E. of which, at half a cable's length from shore, there is a sunken rock, which may be readily distinguished by the eddy of the tide. Within this point, on the S.E., is *Gypsum or Plaster Cove*, where shipping frequently anchor. There is a post-office at the store on the W. side of the beach, and here the Halifax, &c., mails cross the Gut.

When abreast of Gypsum or Plaster Cove, the remarkable headland on the western side, named *Cape Porcupine* will bear nearly S.W. The *Madagascar Rock*, dry at low water, lies half a cable off the highest part of the Cape. To sail into Plaster cove, keep nearly in the middle; and, when in 10 fathoms, let go your anchor. You will find sufficient room for swinging round, in 7 fathoms.

SHIP HARBOUR, which lies half-way down the Gut, on the eastern side, is a good harbour for merchant-shipping; but it is open to N.N.W., from which quarter the wind sometimes sends in a heavy sea. It is, however, more particularly useful

to those sailing northward, being a good outlet. It is a very proper place for ships of 14 feet draught. The Premier Shoal of 13 feet is a middle ground in the entrance; the northern side is the widest and deepest channel. If bound in, from the southward, give the starboard side a berth of a cable's length, (it being flat); and run in until you shut the north entrance of the Gut, and come to anchor in 4 or 5 fathoms, soft bottom; where you may wood on the Breton side, and water on the opposite shore, at *Venus' Creek*; the port side of the harbour is bolder than the starboard side, and deepest water. Without the harbour, one-third from the Breton side, you may anchor in 9, 10, to 13 fathoms, loose ground, in the strength of the tide. The *Ranger* anchored in 10 fathoms, with the church on the hill bearing E. by S., and the south point of the harbour south, about one mile off shore.

The Lighthouse erected on *Eddy Point*, the southern point of entrance, is a square wooden building, painted white, with a black diamond. It exhibits, at an elevation of 25 feet above the level of high water, two fixed white lights, horizontal, and eight yards apart, which in clear weather are visible from a distance of about 8 miles.

Holland Cove, $1\frac{1}{2}$ miles S. of *Venus' Cove*. The anchorage off it is too small for large vessels. At $\frac{1}{2}$ of a mile S.E. from it is the *Cahil Rock*, dry at low water, and 120 yards off shore.

SHIPS BOUND THROUGH THE GUT, from the northward, may proceed through it with safety, by keeping nearly in the mid-channel, there being no danger until they arrive off *Eddy Point*; but from this point extends a spit of sand, with large round stones, for a quarter of a mile to northward of high-water mark, which must be left on the starboard side, at the distance of half a mile from what may be seen above water. The race of the tide will serve to guide you from it.

Having passed the spit of *Eddy Point*, you may steer to the S.S.E. until abreast of an island which appears covered with green spruce-trees having red bark. Hence you proceed to sea, according to the Chart.

It is seldom so thick, especially in a breeze of wind, but that some part of the shore will be seen before the vessel has run far after entering so narrow a strait. With a beating wind, she should board off and on the same shore, until soundings are struck (in the board to the westward, and after crossing the deep water), on the edge of the bank off *Cape Jack*, where, if it be night, and the fog so thick that the light cannot be seen, or if the tide be nearly done, it will be advisable to anchor, and wait for a change. The ground there is not good, but it is out of the strength of the tides, and an anchor will hold in moderate weather. The anchorage half a mile to the south-east of the lighthouse, and on the same side of the channel, should be preferred if attainable: there are some spots of mud there, in which an anchor holds well in from 7 to 9 fathoms, and where the strength of the tide is not great.

Vessels outward-bound, and proceeding through the Gut to the southward, very frequently meet a south or south-east wind, with its usual accompaniments of fog and rain; in which case the roadstead off Ship harbour will be found the most roomy and convenient anchorage. *Eddy cove*, from its more advanced position at the entrance of the Gut, offers to vessels sailing with the first of a fair wind, a better chance of clearing *Chedabucto* bay and the *Canse* ledges before dark; but it can only be recommended in fine settled summer weather, for the ground is not good, and the anchorage is much exposed on the occurrence of a sudden change of wind. *Turbalton* bay is much more secure, but it is rather small for a large and weakly-manned vessel to weigh from, in the event of a strong wind setting in suddenly from the westward.

In leaving the southern end, be cautious of running in the direction of a dangerous steep rock, called the *Cerberus Rock*, and on which the sea breaks with a wind. It is just awash at low water, and lying directly in the fairway is exceedingly dangerous on dark nights and fogs. The nearest land is *Arichat Head* on *Madame I.*, $2\frac{1}{2}$ miles N.N.E., and rather more E.N.E. from *Jerseyman Island*. This rock lies with *Verte* or *Green Island* in a line with *Cape Hogan*, or *Iron Cape*, on the *Ile. of Madame*, at the distance of about $4\frac{1}{2}$ miles from that island.

At the South entrance of the Gut, within a mile of Eddy Point, there is a middle ground of 7 to 12 fathoms, on which ships may stop a tide in moderate weather. To the westward of this ground there is a depth of 18 fathoms, and to the eastward of it 30 to 35 fathoms. With the wind inclining from the southward, steer in nearly west, and keep the lead going, until you shoalen to 11 fathoms, when you may let go your anchor.

Gypsum, or Plaster Cove, is so called from its valuable quarry of gypsum, which appears to be exhaustless. The anchorage at the mouth of this cove has from 10 to 14 fathoms; bottom of soft mud. Cape Porcupine, opposite to this cove, is 562 feet in height, and this is the narrowest part of the strait. On the banks of the Gut, in general, the hills rise in easy acclivities, which present settlements, on the whole range of the shore.

HABITANTS BAY, &c.—Those who wish to anchor in *Habitants*, or *Inhabitant Bay*, or *Harbour*, may bring the farm that is opposite to Bear Head open, Bear Head bearing W.S.W. This mark will lead you clear, and to the southward, of the Long Ledge, and in the mid-channel between it and the steep rocks on the east or opposite shore: at the same time, take your soundings from the Long Ledge, or north shore, all the way till you arrive at Flat Point; then keep in mid-channel between Flat Point and the island opposite, from the N.E. side of which runs off a spit or ledge of rocks, at the distance of a cable and a half's length; then port your helm and run under Island Point, and come-to in 5 fathoms, muddy bottom. Up the river Trent are plenty of salmon in the season, and there you may find wood and water.

N.B. The leading mark to clear the steep rocks of Steep Point is, to bring the peninsula in a line over the point of Turbalton Head bearing S. or S. $\frac{1}{2}$ E. until you open the island to the northward of Island Point; then haul up for the outer harbour, and come-to in 10 or 12 fathoms, muddy bottom.

Those who are bound up the Gut of Canso, and taken short by a N. or N.W. wind, at the south end of the Gut, and who are desirous of good and safe anchorage in 10 to 12 fathoms of water, may come-to on the north side of Bear Island; but should it blow hard, to a gale of wind, down the Gut, this anchorage is not altogether so secure as a careful master or pilot would wish. You must then leave the road of Bear Island and sail round the south end of the Bear Point, giving a berth to the spit that runs off it, of 3 cables' length, and haul round to the N.E. into Sea-Coal Bay, and come to anchor in 4, 5, or 6 fathoms, sandy and muddy bottom.

Marks for anchoring, viz., bring Bear Head in a line over Flat Head, bearing W.S.W., or W. by S., and Carlton Cliffs to bear N. by E. or N. in 5 or 6 fathoms, and you will have a good berth, sheltered from the W.N.W. and N. winds. Here is sufficient room to moor ten or twelve sail of any ships of war, of the sixth to the third rate.

Ships coming down the Gut of Canso, which may have reached past Eddy Point, or as far as Cape Argos, and caught with a S.E. to a S.S.W. wind, and cannot hold their own by beating to windward, may bear up and come to anchor in *Turbalton Bay*, under Turbalton Head, where you may ride safely in from 5, 6, or 7 fathoms of water, muddy bottom. The marks for anchoring in Turbalton Bay are, to bring the peninsula point in a line over Turbalton Head, bearing S. or S. $\frac{1}{2}$ W.; or a point of land inland, a little up in the country, from Cape Argos shore, with pine-trees on it, open to the eastward of the Red Head; or the said point of land with pine-trees on it, over the pitch or point of Turbalton Head; you are then sheltered by the rocks, or spit, that runs from Turbalton Head, in 4 to 5 and 6 fathoms of water, and will ride very safely on good holding ground. But, should the wind shift to the S.W. or N.W., you must take up your anchor, and beat out of the bay into Chedabucto Bay, and proceed on your passage to the southward. Should the wind over-blow, at S.W., so as to prevent your beating to windward into Chedabucto Bay, you may come to an anchor in Eddy Cove, bringing the low part of Eddy Point to bear S.S.E. or S. by E., in 5, 6, or 7 fathoms of water, taking care to give the ship sufficient cable, lest you drive off the bank into deep water, from 15 to 20 fathoms.

TIDES ON THE SOUTH SIDE OF THE GULF OF ST. LAWRENCE.

It is high water, full and change, at the north and south entrances of the Gulf of Canso, at 9^h and 8^h respectively. The rise at each, in ordinary spring and neap tides, is 4 $\frac{1}{2}$ and 3 feet; but extraordinary tides may rise 6 or 7 feet, or only 2 feet, owing to the irregular influence of unknown causes; probably strong winds at a distance.

The tide rushes with great rapidity through the Gut of Canso: and, in the narrowest part of the Gut, or at Cape Porcupine, it seldom runs at a slower rate than 4 or 5 miles in an hour. Here it flows, on the full and change, at 9^h.

Along shore, past Havre Bouché and Antigonish, it sets toward Cape St. George; and, rounding that cape, proceeds thence in a north-westerly direction. On the south shore of Northumberland Strait, the time of flowing, on the full and change, is from 7 to 8^h. The perpendicular rise is from 3 to 7 feet.

The tides here are very materially varied by the winds; and it has been found that, at times, the stream of the Gut of Canso has continued to run one way for many successive days.

II.—PRINCE EDWARD ISLAND.

This island is a British colony, with a distinct government, though subordinate to the British commander-in-chief in North America. It is well settled, and possesses a good soil. The island is exempted from fog, while the surrounding coasts of Nova Scotia, Breton Island, and New Brunswick are frequently covered with it. Indeed it presents a striking contrast. The first appearance of the island is like that of a large forest rising from the sea, and its aspect on approaching nearer is beautiful. The red sand and lime-stone cliffs, which surround great part of the coast, then appear: these are not so high. The land, excepting the farms, which are cleared, are covered with lofty trees; and the sand-hills, which border a considerable part of the north side, are covered with a high strong grass, mixed with a kind of pea or vetch, which makes excellent hay. The climate is generally healthy and temperate, and not subject to the sudden changes of weather experienced in England. The winter here sets in about the middle of December, and continues until April; during which period it is colder than in England: generally a steady frost, with frequent snow-falls, but not not so severe as to prevent the exertions of the inhabitants in their various employments. The weather is generally serene, and the sky clear. In April, the ice breaks up, the spring opens, the trees blossom, and vegetation is in great forwardness. In May, the face of the country presents a delightful aspect. Vegetation is so exceedingly quick, that, in July, peas, &c. are gathered which were sown in the preceding month. The country is generally level, or in rising slopes, and abounds with springs of fine water, and groves of trees, which produce great quantities of excellent timber &c. The greater part of the inhabitants are employed in farming and fishing. Charlottetown, situate between York and Hillsborough Rivers, on the southern side of the island, is the seat of government.

The population of the island, according to the census of 1827, was 30,000; in 1833 it was 32,349; in 1841, 47,034; in 1853, 62,654; and in 1856 the population was estimated to amount to 36,137 females; and 35,265 males: total, 71,502.

NORTH POINT.—The northern point of Prince Edward Island is of low red cliffs. It has a reef extending from it to the northward and eastward 1 $\frac{1}{2}$ miles to the depth of 3 fathoms, and nearly 2 miles to 5 fathoms; moreover rocky and irregular soundings from 6 to 7 fathoms, continue for several miles further out to the north-east, causing at times a dangerous breaking sea, and terminating in a small patch of rocks, on which there is little more than 4 fathoms in low spring tides, and which bears from the North Point N.E. 4 $\frac{1}{2}$ miles. Vessels should therefore always give this reef a wide berth in thick weather, or at night.

The west coast of Prince Edward Island, from the North to the West point (a distance of 83 miles S.W. by W.) is unbroken, and formed of red clay and sandstone cliffs, with intervening sandy beaches affording landing for boats in fine weather. It should not be approached nearer than the depth of 11 fathoms, at night, or in thick weather.

West Reef is a narrow and rocky ridge 4 miles long north and south, and with irregular soundings from $2\frac{1}{2}$ to 5 fathoms. The least water, 16 feet, is near the middle of the reef, and there are 18 feet near its southern extreme. Its northern end is $3\frac{1}{2}$ miles off shore at the highest part of the cliffs.

There are no leading marks for this reef, and as there are 13 fathoms in one part close to its outer edge, it is very dangerous to ships rounding West Point.

It is high water, full and change, at West Point, Prince Edward Island, at about 6½ hours, the rise being 4 feet in springs, and 2 feet in neaps. But the strength and direction of the tidal streams about the West Reef are very irregular, being influenced by winds.

West Spit.—The west spit of sand upon sandstone, covered in some parts with only a few feet of water, runs out from West Point 3 miles to the N.N.W., and then trends N. by E. within the West Reef, so that the latter overlaps it at the distance of half a mile. There is a "cul de sac" between the spit and the shore, open to the northward, and in which there are from 6 to 4 fathoms water.

West Point.—The western point of Prince Edward Island consists of sand hills 12 feet high. Excepting in the direction of the spit, the shallow water does not extend far from it, and there is good anchorage under it in winds from between North and East, in 4 fathoms, fine sand bottom.

Egmont Bay is formed between West Point and Cape Egmont, which bears S. by E. $\frac{1}{2}$ E., and is distant 17 miles. It is 8 miles deep, and affords excellent anchorage with off-shore winds, in from 4 to 7 fathoms, over sand and clay bottom; but vessels should not anchor in less than 5 fathoms anywhere excepting on the north-west side of the bay. Percival and Enmore Rivers at the head of the bay, are only useful to boats and very small craft, having a depth of only 4 to 7 feet at low water.

The eastern side of Egmont Bay should not be approached to a less depth than 5½ fathoms in a large vessel, for the shallow water off Rock Point and the bar of St. Jacques extends a mile from the shore.

Cape Egmont is a remarkable headland with cliffs of sandstone, 60 feet high. About a mile to the northward of it will be seen the Dutchman, an insulated rock 30 feet high, and lying at the distance of a cable from the shore. The cape itself is quite bold to the southward; but to the westward there is shallow rocky ground half a mile off shore, and which should not be approached nearer than the depth of 5 fathoms at low water.

Egmont Bank, of fine red sand, and with 4 fathoms least water, is very narrow, and $2\frac{1}{2}$ miles long in a S.S.E. and N.N.W. direction. Its northern end bears W. by N. $\frac{1}{2}$ N. 5 miles from Cape Egmont, its southern end W. $\frac{1}{2}$ S. 4 miles from the same headland, and there are as much as 8½ fathoms and a clear channel between it and the cape.

From Cape Egmont to **Sea Cow Head**, the course is S.E. $\frac{1}{2}$ E., and the distance 14½ miles. A bank of comparatively shoal soundings commences at the former, and terminates at the latter headland, curving to the southward, so as to extend to the distance of $3\frac{1}{2}$ miles off shore; its southern edge, in 5 fathoms, forms an excellent guide for vessels at all times: but if of large draught they should be careful of venturing within that depth, since there are only 3½ fathoms, with rocky bottom, in one part.

BEDEQUE HARBOUR, situated in the bay to the northward of Sea Cow Head, runs in to the eastward between **Indian Head** and **Phelan Point**; the former, the south point of entrance, will be easily distinguished, being faced by sandstone cliffs 25 feet high, and rising to double that height, a short distance back from the shore, whilst the other is comparatively low and wooded. The entrance between

these points is $1\frac{1}{2}$ miles wide, but the Indian Spit, which dries out half a mile from the head, and the shallow water off the opposite shore, leave only a narrow channel into the harbour.

A depth of 20 feet at low water, ordinary spring tides, can be carried into the harbour, and, since the tides rise from 5 to 7 feet, there is water enough for vessels of large draught.

A small *fixed white light* is exhibited from a lantern on a pole on Green's Wharf, on the northern shore of Bedeque Harbour. As the assistance of a pilot and of buoys is indispensable to enter Bedeque Harbour, it would be advisable to anchor in the bay or roadstead outside, until the former could be obtained.

At 6 miles S.E. from Cape Egmont is *Carleton Head*, and at $2\frac{1}{2}$ miles further is *Cape Traverse*. The points between these Headlands are formed of red sandstone and clay cliffs, with coves between, affording shelter and landing for boats, and also anchorage for small craft, with the wind off the land, or in fine weather.

Tryon Shoals, of sand upon sandstone, dry out $1\frac{1}{2}$ miles off-shore, at 6 miles eastward of Cape Traverse, between the Tryon and Brockelsby Rivers; and their south-west extreme, in 3 fathoms, bears S. by W. $\frac{3}{4}$ W., and is distant $2\frac{1}{2}$ miles from Tryon Head, the nearest part of the shore. At the distance of one-third of a mile N.E. from the south-west point of the shoal, there are only 2 feet water over rocky bottom, and at twice that distance the sands are dry at low water.

There is an excellent leading mark, namely, Cape Traverse and Carleton Head in line, bearing N.N.W. $\frac{3}{4}$ W., which clears the southwest point of the shoals in 6 fathoms, and at the distance of a long half mile.

Crapaud Road is a small but secure anchorage off the mouth of Brockelsby River, and between the eastern part of the Tryon shoals and the land. The entrance is only 180 yards wide, and carries 9 feet at low water spring tides.

Brockelsby Head, 9 miles S.E. by E. from Cape Traverse. It has clay cliffs, 15 feet high, based upon sandstone, which runs out a mile to the southward, forming a dangerous reef, which must be carefully avoided by vessels approaching Crapaud from the eastward. *Inman Rock*, with 4 feet least water, lies near the outer point of this reef, South two-thirds of a mile from Brockelsby Head, and has from 13 to 19 feet of water around it. Large vessels should not approach it nearer than the low water depth of $4\frac{1}{2}$ fathoms.

HILLSBOROUGH BAY, having in it the principal harbour and capital town, and being the outlet of an extensive inland navigation, is the most important, as well as the largest, of any in Prince Edward Island. Charlottetown, the principal town, lies in its N.W. part.

Lights.—The lighthouse, with bright fixed light at 68 feet, on *Prim Point*, the south-east point of Hillsborough Bay, is of brick, of a conical form, 50 feet high, and coloured white. It stands at 100 yards within the south-west extreme of the point. It is of the greatest use to vessels, especially when approaching from the eastward, guiding them, by its bearing, clear of the Rifleman and Pinette Shoals, and enabling them to enter the bay in the night.

A small *fixed white harbour light* is also shown from the roof of the block house on Blockhouse Point, the eastern outer point of entrance to Charlottetown Harbour. The light is visible from a distance of 9 miles.

St. Peter's Island, lying off the western point of entrance to Hillsborough Bay, is joined to Rice Point, the western point of the bay, and from which it is distant $1\frac{1}{2}$ miles, by sands dry at low water.

Shallow water extends off this island $1\frac{1}{2}$ miles to the S.W. and South; but the soundings, deepening out gradually, afford ample guidance in that part. Further eastward the St. Peter's Shoals become much more extensive, stretching out $3\frac{1}{2}$ miles E. by N. from the north-east point of the island. The *Spit-head*, a rocky shoal, with 8 feet least water, lies off the end of St. Peter's Spit, and extends to within a quarter of a mile of the east extreme of the St. Peter's Shoals, where the *Spit-head beacon buoy* is moored in 5 fathoms. The edge of the St. Peter's Shoals may be safely fol-

lowed by the lead in 5 fathoms as far in as Spit-head Buoy; after which the bank becomes steep, and must be approached with caution in a large vessel.

Prim Point, with the lighthouse on it, is the south-east point of Hillsborough Bay, it is low, with cliffs of sandstone, 10 to 15 feet high. Prim Island is distant $1\frac{1}{2}$ miles E.N.E. from the extremity of the point.

A reef of sandstone runs out to the westward, both from the island and the point, so as to form a forked reef, $1\frac{1}{2}$ and 2 miles to W. by S. and N.W. by W., with very uneven soundings; the sounding, combined with the bearing of the light, are amply sufficient for rounding the reef.

Governor Island, lying in the middle of Hillsborough Bay, is low, in great part wooded, and has dangerous shoals round it on all sides. The *Governor Shoals*, extending to the south-west, and adding greatly to the dangers of the navigation, require especially to be noticed. Rocky and irregular soundings continue to the west extreme of the shoals, in 5 fathoms, distant 2 miles from the island. A *beacon buoy* is moored in 4 fathoms, a cable's length within the west extreme of the shoals: with the square tower of the Scotch Church at Charlottetown and Battery Point in line, bearing N. by E. $\frac{1}{4}$ E.; which mark leads along the W. side of the shoals.

The *Fitzroy Rock*, with 20 feet least water, lies about a cable's length to eastward of the above buoy.

There are some very dangerous reefs further south. Of these patches, the *Huntley Rock*, bearing S. by W. $\frac{1}{4}$ W., $1\frac{1}{2}$ miles from the west end of Governor Island, has the least water, namely, 12 feet at low tide; but there are others, with from 17 to 22 feet water, as far out as $2\frac{1}{2}$ miles, and the south-west extreme of the shoals in 5 fathoms is distant $3\frac{1}{2}$ miles from the island.

On the eastern side of the channel into Charlottetown Harbour, to the northward of Governor Island, the shallow water is continuous, from *Sea Trout Point*, at the entrance of the harbour, to Governor Island.

The harbour is $4\frac{1}{2}$ cables wide at entrance, between the cliffs of Blockhouse and Sea Trout Points; but shallow water, extending from both shores, reduces the navigable width of the channel, reckoning from the depth of 3 fathoms, to about $2\frac{1}{2}$ cables; and as the shoals are very steep, it would require to be well buoyed before a ship of large draught could beat in or out with safety. An old blockhouse and signal post stand on Blockhouse Point, the west point of entrance. The next point of cliff on the west side of entrance is *Alchorn Point*. On the same side, north of Alchorn Point, is Warren Cove, and lastly, *Canseau Point*, with its *white beacon*, $1\frac{1}{2}$ miles from the blockhouse.

On the opposite or eastern side of the entrance, and less than a mile within Sea Trout Point, is Battery Point, with its shoal; the latter running out 2 cables, and having on its extreme point a *buoy* moored in 3 fathoms at low water. Immediately within Canseau and Battery Points, which are the inner points of entrance, the channel expands into one of the finest harbours in the world, having depth and space sufficient for any number and description of vessels. Of the three rivers which unite in the harbour, the Hillsborough is the largest draught to the distance of 7 or 8 miles, and for small vessels 14 miles above Charlottetown, where there is a bridge 2 miles from the head of the river. There is a portage of less than a mile across, from the Hillsborough near its head to Savage Harbour on the north coast of the island.

Charlottetown, which is now a city, is advantageously situated on the northern bank of the Hillsborough River, a short distance within its entrance, and at the point where the deep water approaches nearest to the shore.

In Charlottetown Harbour it is high water, full and change, at 10^h 45^m, and ordinary springs rise $9\frac{1}{2}$ feet, and neaps 7 feet.

Vessels bound to Charlottetown from the eastward with a fair wind will avoid the Rifleman Reef by attending to the soundings in the chart, and by not bringing the light on Prim Point to bear to the westward of N.N.W. A large

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Approaching from the westward with a fair wind, bring Governor Island and Pownell Point to touch, bearing E. by N., and run for them until the Scotch Church comes in sight, and in line with Blockhouse Point, bearing N. by E. $\frac{1}{2}$ E.; when steer N.E. by E. or N.E. $\frac{1}{2}$ E., according as it may be flood or ebb tide.

Pinette Harbour, 4 miles eastward from Prim Point, has only 2 feet at low water over its rocky and exceedingly dangerous bar. *Flat River*, which is only fit for boats, is 3 miles to the south-east from Pinette Harbour.

Rifleman Reef, of sandstone, extends to the distance of 2 miles to the westward from Steward Point, which bears S.E. $\frac{1}{2}$ S. 9 miles from Prim Point. On the extreme outer point of this reef, in 3 fathoms, the light on Prim Point bears N.N.W. $\frac{1}{2}$ W. 8 miles.

Caution.—The very irregular soundings off it, and the deep water close to it (16 fathoms within less than half a mile, while there is a much less depth further out), render it one of the greatest dangers in Northumberland Strait. The bearing of the light on Prim Point will greatly assist vessels in avoiding it. *Indian Rocks* occupy a space $1\frac{1}{2}$ miles in length, parallel to the shore between Bell Point and the Wood Islands, and half a mile in breadth, and their southern edge is $1\frac{1}{2}$ miles off shore. The want of sufficient leading marks, and the deep water so close to the southward, would render these rocks exceedingly dangerous by day, as well as by night, if there were not almost always breakers or a rippling to be seen on the part which dries.

Wood Islands are now only in part covered with timber. They are two small islets half a mile off shore.

White Sands is a settlement, receiving its name from the sandy beach of a small bay, 9 miles eastward from the Wood Islands. The shore to the eastward of White Sands is formed of sandstone cliffs, which are in some places 40 feet high, without beach or landing, except at *Guernsey Cove*, and from which the shallow water does not extend beyond 3 $\frac{1}{2}$ cables until near Cape Bear.

CAPE BEAR, the southern point of the east coast of Prince Edward Island, will be known by the large rock, 12 feet high, which lies close under its cliffs of red sandstone; and the projection of Murray Head, a mile further to the northward.

Bear Reef runs out to the eastward, from between Cape Bear and Murray Head, three-quarters of a mile, to the depth of 3 fathoms, and one mile to 5 fathoms; and is composed of sandstone and large stones. Do not approach nearer than the depth of 10 fathoms, either to eastward or southward of the reef.

At the distance of 3 $\frac{1}{2}$ cables to the southward of Murray Head, there is a fine little stream of fresh water, worthy of notice, because there are so few places on the island where a large ship can readily water. Boats can land there in westerly winds, when vessels will find good anchorage under the head.

FISHERMAN'S BANK is of sandstone, thinly covered with stones, gravel, and broken shells, with from 4 to 5 fathoms at low water on its middle. From the least water, 4 fathoms, Murray Head, the nearest land, bears W.N.W. $7\frac{1}{2}$ miles.

Murray Harbour has an exceedingly dangerous bar of sand, over which 10 feet can be carried at low water in ordinary spring tides; but strong easterly winds send in so heavy a sea as to render it at times impassable, a line of breakers extending then completely across the bay from Murray head northward to Cody Point, a distance of nearly 2 $\frac{1}{2}$ miles.

On the outer edge of the bar a buoy is moored in 3 fathoms. There is moreover an inner buoy in the fair way, half a mile within the outer one. A white beacon in one with a black ball on the gable of a barn leads in.

At 4 $\frac{1}{2}$ miles, N.N.E. $\frac{1}{2}$ E. from Murray Head, is Graham Point, from which *Graham Ledge* runs out one mile to the depth of 5 fathoms.

GEORGE TOWN HARBOUR, sometimes called *Three Rivers*, is situated on the south-west side of Cardigan Bay, 3 miles within or to the N.W. by N. from Panmure Head, which is distant 9 miles to the northward from Cape Bear. It is the finest harbour in the southern part of the Gulf, excepting Charlottetown, having depth of water and space sufficient for the largest ships. The rise of ordinary spring tides being only 5 feet is a great disadvantage as compared with Charlottetown Harbour. George Town, the capital of King's County, is well situated on the northern shore of the harbour, just to the eastward of Gaudin Point.

Light.—The light-tower on Panmure Head, the east extreme of Panmure Island, is a wooden octagon building, 49 feet high, and painted white. It shows at 89 feet above the sea at high water a *fixed white light*, which is visible in clear weather from a distance of 14 miles. Panmure Island, on the south side of the bay, is about 2 miles long, and is joined to the land to the southward by a narrow sand bar, always above water, and more than a mile in length.

Panmure Ledge, of sandstone, covered by only a few feet of water, runs out 6 cables from Panmure Head to the depth of 3 fathoms. *Panmure Shoal* extends to the distance of two-thirds of a mile off the northern shore of Panmure Island; and Panmure Spit, which forms the western side of the shoal, and is of sand dry at low water, equally as far to the N.N.W. from Billhook Point, the north-west extreme of the island.

A *white buoy* is moored close to the steep northern edge of the shoal, in 5½ fathoms. The Panmure Shoal and spit, and further in the equally steep shoals off Grave and St. Andrew Points, form the dangers on the south side of the entrance channel to George Town Harbour.

The dangers on the north side of entrance to George Town Harbour are, the Cardigan Shoal, the Knoll, and the Thrumcap Shoal. The *Cardigan Shoal*, stretching to the south and east from Cardigan Point, which separates Cardigan River from the harbour, is an extensive shoal of sandstone; the least water on it is 4 feet, and it has only 6 feet at low water, three-quarters of a mile out from the shore. At the distance of one cable further out there are 3 fathoms, and the *red buoy*, moored on its south-east extreme in 5 fathoms, is distant one mile from the low cliffs at the extremity of the point.

At the distance of one mile W. by N. from the red buoy, and on the south-west extreme of the Cardigan Shoal, a *black buoy* is moored in 4 fathoms, with Cardigan Point bearing N.N.E. ½ E.; and the white buoy on the Panmure Shoal S.W. ½ W., distant one-quarter of a mile. In a direct line from the red to the black buoy of the Cardigan Shoal, there is not less than 3½ fathoms, and the southern edge of the shoal in 5 fathoms may be followed by the lead from the one to the other.

The *Knoll*, a small sandy shoal, probably based upon sandstone, and with 9 feet least water, lies just outside the entrance of George Town Harbour, and directly in the way of navigation.

Thrumcap Shoal runs out from the Thrumcap (which is a small wooded and cliffy islet joined to the eastern point of entrance of George Town Harbour by a sand bar) 3 cables in a W. by S. direction. On its S.W. extreme, in 3 fathoms, a *black buoy* is moored with the cupola and the steeple of the churches in George Town in one, bearing N. ½ E.; the north-west side of the Thrumcap E. by N., and the beacon at Whiteman's Wharf S.W. ½ S. This shoal, which is of sand, and dry at low water nearly all the way out to the buoy, completes the shelter of the harbour, preventing any sea of consequence from rolling in. These shoals contract the channel very much, and without a leading wind a pilot is indispensable.

The three rivers which fall into the bay, the *Brudenell*, *Montague*, and *Cardigan*, require no particular notice. The last named is the most considerable.

CARDIGAN BAY, in which the harbour and rivers just described are situated, is 3½ miles wide at its entrance between Panmure and Broughton Islands. It affords excellent anchorage in from 6 to 10 fathoms, mud bottom, with winds off shore, but winds from E.N.E., round east and south, to S.W. by S., send in a heavy sea.

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Boughton Point, the south extreme of the *Boughton Island*, is a cliff of red sandstone 30 feet high, and has a rock which dries off it, and shallow water to the distance of half a mile, and a vessel of large draught, at night or in thick weather, should not round the point in a less depth than 9 or 8 fathoms.

Boughton, or Grand River, 5 miles N.N.E. from Boughton Point, has a dangerous bar of sand one mile out from its entrance, and over which 6 feet, at low water ordinary spring tides, can be carried in a very narrow channel marked out by three buoys.

Colville River, situated in Colville Bay, between Souris Head and Swanton Point, and distant 12 miles N.E. of Boughton Point, is the most important of several tide inlets to the N.E., being the place where the produce of the more eastern parts of the island is principally shipped. Colville Bay affords good anchorage with off-shore winds, and the settlement of Souris, and the church, will be seen on its eastern shore.

The coast to the eastward of Colville Bay is bold and free from danger, excepting Harvey Reef, which extends 4 cables from Harvey Point, and has on it the Shallop Rock, which always shows. Harvey Point is 5 miles from Colville Bay, and will be known by its being the eastern point of Harvey Cove, in which there are some remarkable and high sand hills.

EAST POINT.—The eastern point of Prince Edward Island is a cliff of red sandstone from 30 to 60 feet high, from which a reef runs out two-thirds of a mile to the depth of 3 fathoms, and not quite a mile to 5 fathoms. In vessels approaching this reef at night, it should be remembered that the flood tide comes from the northward, setting strongly upon and over it, and afterwards south-westward, between it and the Milne Bank, at the rate of 2½ knots. There is frequently a great rippling off the point, but the reef does not extend further than has been stated. The depth of 20 fathoms is as near as a vessel of large draught should approach when the land cannot be seen at night or in foggy weather.

The anchorage is not good to the northward of East Point, the ground being either loose or rocky; but to the southward of it there is good riding with northerly winds as far westward as the East Lake outlet, in a moderate depth of water, and over a bottom of red sand.

MILNE BANK, with 4½ fathoms near its South end, lies between S. by E. and South from East Point, and is distant from it 4½ to 5½ miles.

NORTH COAST.—The great bay formed by the northern coast of Prince Edward Island, with the set of the tides and the heavy sea, cause great difficulty of beating a ship out of it in heavy and long-continued north-east gales.

With the exception of a few places off the bars of the harbours, the anchorage is, generally speaking, very bad all along the northern shores of the island; the bottom being of red sandstone, thinly covered occasionally with sand, gravel, and broken shells.

The harbours are all of the same character, having narrow entrances between sandbars, with dangerous bars of sand at various distances from the shore. They are only fit for small vessels, with the exception of Richmond Bay and Casampeque, and even those could not be safely run for in bad weather, and with a heavy sea running, at which times the breakers on their bars extend quite across, leaving no visible channel. New vessels are built in these harbours almost every year, the smaller for the Newfoundland trade; and besides the coasting schooners for produce, American fishing schooners frequently call at them for wood and water, or shelter on the approach of bad weather. We recommence at the North Point.

From the *North Point* of Prince Edward Island to Cape Kildare, 11 miles to the S. by W. ½ W., there is little requiring notice, excepting the River Tignish, with only 2 feet water in its narrow sandy entrance at low tide. About a mile to the northward of the entrance a rocky ledge runs off to the distance of 1½ miles, with no more than 3 fathoms on it at low water. The shallow water extends to the same distance off Cape Kildare, which is a cliff of sandstone 30 feet high.

CASCUMPEQUE HARBOUR, sometimes called *Holland Harbour*, is distant 5 miles S.W. by W. from Cape Kildare, and at the bottom of the bay where the land begins to trend to the eastward. It will be known also by the remarkable high sand hills, $3\frac{1}{2}$ miles to the southward of its entrance; these are the remains of a range of sand hills formerly known as the Seven Sisters, and are 50 feet high. There are no high sand hills to the northward of the harbour.

The entrance to this harbour is $1\frac{1}{2}$ cables wide, between two sand bars resting upon the sandstone which forms the Inner bar, over which there are 10 feet at low water. The Outer bar, of sand, lies $1\frac{1}{2}$ miles out from the entrance, and has the same depth, namely 10 feet at low water, in a very narrow channel indicated by a *buoy*, which vessels must pass close to the southward of, and also by a *white beacon* (on the south extreme of the northern sand bar), in one with a *white mark* on a log hut, bearing W. by N.

Light.—The lighthouse in Cascumpeque Harbour stands on the north side of the entrance, near to, but higher up on the sand bar than the beacon. It is a small wooden, octagonal tower, coloured white, and exhibits at 32 feet above high water a *fixed white light*, visible in clear weather at 8 miles.

As the bar of Cascumpeque Harbour may shift in the course of years, a pilot would be indispensable to a stranger visiting it for the first time. There is good anchorage off the bar in fine weather in 5 or 6 fathoms, sand bottom.

RICHMOND BAY is of great extent, running in 10 miles to the south-west, and crossing the island to within $2\frac{1}{2}$ miles of the waters of Bedeque Harbour. It contains seven islands, and a great number of creeks or rivers, some of which are navigable for vessels of considerable burthen, and all of them by small craft and boats. Grand River, which is the principal inlet, can be ascended in boats to the bridge, a distance of 7 or 8 miles.

There are fine settlements at *Grand River*, and also at *Port Hill*, in the north-west part of the bay within Lennox Island, and where several vessels load every year.

Malpeque, which has given its name to the harbour, is one of the oldest settlements on the island, and, with its church, stands on the neck of land between Darnley Inlet and the March Water, $2\frac{1}{2}$ miles South from the entrance of the bay. A competent pilot, or a chart, on a large scale, could alone enable any one to navigate a ship through the various channels and inlets of this bay.

MALPEQUE HARBOUR, which is within the eastern entrance of Richmond Bay, is superior to any other on the northern coast of the island, having 16 feet over its bar at low water, and from 18 to 19 at high water in ordinary spring tides.

The principal entrance to the harbour is to the southward of *Billhook* or *Fishery Island*, and between it and *Royalty Sand*, which dries out a long half mile from Royalty Point. The ground is good, in the usual anchorage, just within this entrance; the bar outside preventing any sea from coming in, and the Horse-shoe Shoals sheltering them from westerly winds down the bay.

LIGHT.—A *fixed white light*, said to be visible in clear weather at 8 miles, is exhibited, at 20 feet above high water, from a large lantern on a pole, on the southern part of Billhook Island, on the south side of entrance to Malpeque Harbour.

The Bar of Malpeque Harbour runs out E. by S. $2\frac{1}{2}$ miles from Billhook Island, and then turns to the southward so as to join the shore to the eastward of Cape Aylesbury. It is exceedingly dangerous in bad weather, when all signs of a channel are obliterated by heavy breakers.

The narrowest part of the Ship channel is one cable wide, and carries 4 fathoms water. The Inner bar, of sandstone and with 19 feet at low water, is a quarter of a mile further in, and has in general a buoy upon it. Two *white beacons* on the south-east end of Billhook Island, kept in one, bearing W. by N. $\frac{1}{2}$ N., will lead through the *Narrows* of the Ship channel and over the Inner bar; but not over the Outer bar in more than 13 feet at low water. To enable vessels to cross the Outer bar in the deepest water, namely 16 feet at low water in ordinary spring tides, the Outer *buoy*

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is moored in 3½ fathoms, and at the distance of one cable to the northward of the line of the beacons: the intention being, that a vessel by running from the Outer to the Inner buoy should carry the deepest water; but not more than 15 feet could be insured in that way, or without the assistance of a third buoy between the other two; and therefore a stranger without an experienced pilot should not reckon upon more than that depth.

CAPE TRYON, distant 7 miles, S.E. ¼ E., from Cape Aylesbury, is a remarkable cliff of red sandstone, 110 feet high. The coast between Richmond Bay and Cape Tryon is nearly straight, and free from detached dangers; but the shallow water runs out a considerable distance, and a large ship should not approach nearer than the depth of 7 fathoms.

GRENVILLE HARBOUR, 1½ miles, S.S.E., from Cape Tryon, has its entrance at the north-western extremity of a long range of sand-hills, the highest of which is 55 feet above high-water mark. The entrance of this harbour is one-third of a mile wide, and carries 3 fathoms water, but it is nevertheless only fit for small vessels, in consequence of its dangerous and shifting bar of sand, which has only 5 feet over it.

Cape Turner is the highest cliff on the island, being of red sandstone and conglomerate, 120 feet high. It is distant 8½ miles, S.E. ¼ E. from Cape Tryon, Grenville Harbour lying between.

Grand Rustico Harbour has two narrow sandy entrances, on either side of M'Auslin Island, and which are distant 3 and 5 miles respectively to the south-east of Cape Turner. Although vessels of two or three hundred tons are occasionally built here, and floated light over the bars in fine weather, yet it is a place only fit for small schooners.

Little Rustico Harbour has its narrow sandy entrance on the western side of Stanhope Point, with a depth of only 2 feet over its shifting bar.

Cape Stanhope, on which there is a sand-hill 30 feet high, half a mile to the eastward of the entrance of Little Rustico, and 9 miles to the south-east from Cape Turner, has a dangerous reef running out from it three-quarters of a mile to the depth of 3 fathoms, and one mile to 5 fathoms.

Tracadie Harbour, or Bedford Bay, with a bar with 5 to 9 feet water, is distant 4 miles from Cape Stanhope, and 13 miles, S.E. by E., from Cape Turner. Its entrance is at the western extremity of a remarkable range of sand hills 50 or 60 feet high.

Savage Harbour, at 9 miles to the eastward of Tracadie, has only 2 feet at low water over its bar, and is therefore only fit for boats or very small craft.

St. Peters Harbour, generally called *St. Peters Bay*, is 3 miles further to the eastward, and of great extent, but has only 5 feet on the bar.

The COAST from St. Peters Harbour to East Point, a distance of 33 miles E.S.E., is unbroken, formed of red sandstone cliffs, with occasional patches of sandy beach at the mouths of small streams, where boats can land only in fine weather or off-shore winds. Surveyor Inlet will not now admit a boat, being closed with sand.

The shallow water does not extend beyond half a mile anywhere off this division of the coast, and there are in general 10 fathoms water within one mile of the shore; the bottom being of sandstone, and the anchorage bad in consequence.

III.—CAPE BRETON ISLAND.

Cape Breton Island is singularly divided by the Great Bras d'Or Lake, deep enough for large vessels, and giving great facilities for its commerce in timber, agricultural produce, and fisheries. In the neighbourhood of Sydney, the capital, are productive coal mines. Its climate is healthy, its fisheries inexhaustible, its coal mines are rich; but the population, amounting to about 6,000, are not flourishing.

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GEORGE BAY is noticed previously in page 149. Its eastern shore, from the north end of the GUT of CANSO to *Port Hood*, is distinguished by high, rocky, red cliffs. The opposite shore has several remarkable cliffs of gypsum, or plaster, which appear extremely white. **CAPE ST. GEORGE**, the western extremity of St. George's Bay, in Nova Scotia, is iron-bound and very high, its summit being 600 feet above the level of the sea, as noticed previously.

PORT HOOD, situate on the western side of Breton Island, is a safe harbour for frigates with any wind, but particularly from the S.W. to S.S.E. round by the northward; the anchorage is in from 4 to 5 fathoms, mud and sandy bottom: here you may wood and water. It lies within *Just au Corps* (Jestico), sometimes called *Henry Island* and *Smith Island*, on which are the farms, &c., of two persons named Smith. There is no good passage between these islands.

Light.—A small square white building stands on the cliff at the South entrance to Port Hood, showing a red light to northward, and white to the southward.

On the 31st July, 1831, H.M. Ship *Ranger* anchored here; and Mr. Dunsterville describes the place as follows:—"On the S.W. point of the entrance a bank of hard sand commences, and extends out to a spit off the first sandy cove from the outer point, nearly half a mile from the shore, and is very steep; 4 and 5 fathoms close-to. On the opposite shore, and half a mile within, a long tongue of sand stretches out, which is nearly dry. These spits completely shelter vessels from any winds from S.W. to S.S.E. The anchorage is in 5 fathoms, within the spits, muddy bottom.

"From the south point of *Just au Corps Island*, with a fair wind, steer East, passing about half a mile to the southward of the S.W. point of the harbour; and when it is perfectly open, steer about north, or N. by E. for a break in the land, which is a low gravelly beach; and as you approach the harbour the shoals are generally seen. In the fairway you will have from 7 to 7½ fathoms; but, between the island and the main the soundings are uneven and unsafe to pass through. H. W. full and change about nine o'clock. Tide not perceptible; rise 2 to 5 feet. The winds, when from the southward through the Gut of Canso to Cape St. George, generally are from S.S.W. or S.W.

From Port Hood, the north-western coast of Breton Island bears nearly straight, in a N.E. by N. true direction towards Cape St. Lawrence, in lat. 47° 2', long. 60° 36', a distance of 74 miles, off which cape is the island of St. Paul, with its two light-houses, as described on page 81.

The only places worthy of note are *Mabou River*, 5 miles from Port Hood, with a 4-foot bar. To the northward of it is the *Mabou light*, and, being 1,000 feet above the sea, is very remarkable. Beyond this the coast is lower, and is well settled past *Chetican Island*. On Chetican Point its S.W. extreme is the fishing establishment of Messrs. Robins and Co., of Jersey, the chief place on this coast.

At *Presqu'île*, 4 miles northward of the N. end of Chetican Island, the mountains come close down to the shore, beyond this there are scarcely any inhabitants or landing.

Cape St. Lawrence is the N.W. point of Cape Breton Island, and is slate rock, affording no landing. *Bear Hill*, which is a remarkable sugar-loaf, 750 feet high, is to the S.E. of the cape. In *St. Lawrence Bay*, between the last cape and Cape North, there is anchorage with off-shore winds, but the bottom is bad, and vessels should be prepared for starting in case a North wind should arise. Supplies may be got at *Wreck Cove* and *Deadman Pond*, the principal fishing establishments.

CAPE NORTH is a remarkably bold rocky headland of slate rising abruptly from the sea to 1,100 feet in height. There is no shoal water off it, and only a few rocks, which show. The electric telegraph cable from Newfoundland is landed here. The passage between this and the island of St. Paul (page 81) is 13 miles wide, with very deep water, and no danger.

The north-east coast, from Cape North to St. Anne's Harbour, a distance of 47 miles to the south-west, is bold, mountainous, and free from outlying dangers, until near Ciboux Island. The mountains attain the elevation of 1,390 feet above the sea, and are composed of primary and metamorphic rocks, principally granite, with clay slate, in nearly vertical strata.

ASPREE, or Ashpe Bay, is 8 miles wide and $4\frac{1}{2}$ miles deep. On its north side, and distant $5\frac{1}{2}$ miles S.W. by W. from Cape North, is *Wilkie Sugar Loaf*, a remarkable conical hill 1,200 feet high. There are settlements at all the three Ponds which are at the head of the bay, where fresh provisions and water may be obtained.

The best anchorage in Aspee Bay, with north-west winds, is off the North Pond, in 8 or 9 fathoms, sand bottom; and with south winds off the South Pond, or in the cove under White Head, which, with a small island lying close off it, forms the south-east point of the bay.

Cape Egmont, distant 12 miles to the southward from Cape North, is a comparatively low headland of granite, and nearly bare of trees. The coast there turns to the S.S.W., and at Neal and Blackbrook Coves, which are distant $2\frac{1}{2}$ miles and 4 miles respectively in that direction, there is good landing for boats. There is a rocky shoal, with 2 fathoms least water, half a mile from the shore at Rocky Bay, where there are several buildings, 2 miles to the northward from Inganish.

INGANISH BAY.—Inganish Island is distant 10 miles from Cape Egmont, and half a mile S.E. from Archibald Point, the north point of Inganish Bay. The island is of rock, half a mile in diameter, and 206 feet high. The East rocks, 12 feet high, lie off it to seaward, and extend out to the distance of nearly 4 cables.

Inganish Bay, between Archibald Point and Cape Smoke (Cape Enfumé), is $3\frac{1}{2}$ miles wide and $2\frac{1}{2}$ miles deep. It is divided into North and South Bays by Middle Head, a long, narrow, rocky, and precipitous peninsula, off which lies the Fisherman Rock, at the distance of a cable to the south-east. There are several houses near these Ponds, as well as on the tongue dividing the two bays, and at some parts of North Bay. The mountains in rear of Inganish are the highest on this coast, attaining an elevation of 1,390 feet; and Cape Smoke, its south point, rises precipitously from the sea to the height of 950 feet. The squalls from these highlands are at times very violent.

Vessels usually anchor on the north side of Inganish Bay within Archibald Point, shifting their berths as the winds may render necessary; but the bottom is in general only a thin coating of sand over rock, and the anchorage consequently unsafe, especially with easterly winds, which send in a very heavy sea. It is high water, full and change, at 8^h 11^m; the rise in ordinary springs is 4 feet, and in neaps $2\frac{1}{2}$ feet.

ST. ANNE'S HARBOUR (formerly Port Dauphin) is capable of containing any number of vessels in security; but the entrance is very narrow, with a tide of 4 knots; and there is a dangerous bar outside, over which a depth of 16 feet can be carried at low water with an intimate knowledge. Without this, a stranger unacquainted with the leading marks could only safely rely on finding 12 feet.

In a strong north-east wind, and especially when the tide is running out, the bar is covered with heavy breakers. The harbour is completely sheltered by *Beach Point*, which is quite bold at its southerly extremity, and the entrance channel between it and *Weed Pond Shoal* carries 13 fathoms water, but is only 130 yards wide. Within the entrance, on the north side of the channel, lies the Port shoal, of mud, extending half a mile in from Beach Point, and just cleared to the southward by the line of Weed Pond Beach and Bar Point in one.

The Kirk stands near the head of a convenient boat cove on the south side of Macleod Point, which divides the harbour, and near the manse, or residence of the minister, whose flock of highlanders form the greater part of the inhabitants of the harbour. They subsist by very indifferent farming, aided by occasional employment in the fisheries, and in getting out lumber for ship building.

On the eastern side of the entrance of the harbour, the small green mound of the old fort will be easily recognized: its summit forms with the plaster, or white gypsum

cliff of Macleod Point, in the head of the harbour, a leading mark for crossing the bar in the best water.

Cape Dauphin, the dividing point between St. Annes Bay and the Great Bras d'or is a high and precipitous headland, and the north-eastern termination of the range of mountains which separate them.

The best watering place is on the northern side of St. Annes Harbour, $1\frac{1}{2}$ miles from the entrance, where a torrent descends a ravine in the mountains of St. Anne, which rise precipitously to the height of 1,070 feet above the sea.

Vessels bound to St. Annes Harbour from the northward with a fair wind, should pass to the north-west of *Ciboux* and *Hertford Islands*. Go no nearer to the shore between Bentinck and Island Points than the depth of 7 fathoms. Observe that the line of Bentinck Point and Cape Smoke in one clears the shoal off Island Point in 5 fathoms; and that in approaching the Bar, Cape Smoke should be kept open. Before arriving at the steep outer side of the Bar, which is distant one mile from the entrance, bring the white gypsum cliff of Macleod Point in line with the summit of Old Fort, and steer for them until Fader Point is seen only just open clear of Wilhausen Point (the vessel will then be only about half a cable distant from the shore near Bar Point); then port the helm instantly and run from the last-named leading marks, keeping Fader Point a little open, until Conway Point is seen to the westward of Lead-in Point, or until the gypsum cliff of Macleod Point is open only half a point to the southward of Beach Point, or until the latter bears S.W. by W., and is distant a quarter of a mile; then again alter course, and keeping Conway Point in sight (to avoid Weed Pond Ledge), steer so as to pass Beachy Point at a distance between 60 and 100 yards.

The best-sheltered anchorage is in the entrance of the North Arm; the riding elsewhere in so large a harbour being at times rather rough for a small vessel. The north-east gales, on entering this harbour, between mountains 1,000 feet high, and only 2 miles apart, blow with concentrated force. They may be expected at any time after the middle of August, and a vessel should be well moored to withstand their fury.

In St. Annes Harbour the time of high water, full and change, is $8^h 42^m$, and springs rise 5 feet, and neaps $3\frac{1}{2}$ feet. Extraordinary tides rise 6 feet.

Cape Dauphin and *Ciboux Islands* lie off Cape Dauphin in a straight line N.E. by E.; and, including the *Ciboux Shoal*, extend the distance of $4\frac{1}{2}$ miles. They are long and narrow islands of sandstone, precipitous on every side, nearly bare of trees, and half a mile apart. There is no passage for ships between them. *Hertford Island* is the highest, and 100 feet above the sea. It is distant from Cape Dauphin $1\frac{1}{2}$ miles; but the dangerous Hertford Ledge, which has 5 feet least water, extends from it nearly half way across to the cape, having a channel 6 cables wide, and carrying 7 or 8 fathoms water. From the outer point of *Ciboux Island* a reef runs off half a mile to the N.E. by E.; and the dangerous *Ciboux Shoal*, with 15 feet least water, and on which the sea at times breaks heavily, lies five-eighths of a mile further out in the same direction.

THE GREAT BRAS D'OR is the principal of the two channels, on either side of *Boulardrie Island*, leading to the interior sea, called the Bras d'or Lake. Its entrance, between Carey Point and Noir Point, is only 340 yards wide, with deep water; and, at a short distance outside, the channel is still further contracted by shoals to 220 yards, measuring from the depth of 3 fathoms on either side.

Within the entrance, off the small bight between Duffus and Mackenzie Points, lies the Eddy Rock, with one foot least water. A vessel will pass clear to the westward of it by keeping Blackrock Point open to the northward of Noir Point. On the opposite, or northern side of the channel, from Carey Point to Kelly Cove, a distance of one mile, the shore is quite bold.

Off the mouth of Kelly Cove, in 5 or 6 fathoms over a bottom of sand, the anchorage is good, and out of the strength of the tide; but it is still more secure further in, within a cable's length of its head, where the bottom is of mud, and the depth 3 to 4 fathoms.

Carey Point, the north-west side of the entrance of the Great Bras D'or, is a shingle beach, quite bold at its southern extremity, but having a dangerous shoal running out from it E.N.E. so as to form the northern side of the channel outside for seven-eighths of a mile. A wide bar commences immediately outside of it, and continues a mile further out, with irregular soundings, from 3 to 6 fathoms, over gravel and sand bottom. Nearly opposite to this, and on the south side of the channel, is *Blackrock Shoal*, extending 2 cables north from the red cliffs of Blackrock Point, and half a mile in a north-east direction.

These are the principal dangers of the entrance; they render the passage indirect as well as narrow; and, together with the rapid tides and the many shoals and beacons, make this a very dangerous pass for a stranger to attempt, except under favourable circumstances of weather, wind, and tide.

There are houses and farms on either side of the entrance of the Great Bras D'or, at which supplies of fresh provisions may be obtained; water is easily procured.

It is high water, full and change, at the entrance of the Great Bras D'or Channel, at 7^h 30^m; the rise in ordinary springs being 3 feet, and in the neaps 1½ feet. The usual rate of the tidal streams in the entrance is from 4 to 5 knots.

The Great Bras D'or Channel, separating the coal-bearing strata of Boulardrie Island, and the country further to the south-east, from the older rocks, forms the boundary of a great change in the character of the coast. Instead of mountains the coast is now of moderate elevation, characterized by cliffs of sandstone and shale of the coal formation, until we arrive at older rocks on the south shore of Mira Bay, and at Scatari Island; the latter being distant from the Great Bras D'or 36 miles.

The dangers of this coast are such as to render great caution necessary at night or in fogs, when 30 fathoms, or at least 20 fathoms of water, is as near as a stranger should approach; the latter depth being in some parts within 2 miles of the shore.

The Little Bras D'or is the narrow and winding passage on the eastern side of Boulardrie Island; which, at the distance of 5 miles from its entrance, expands into the wide and deep channel of St. Andrew.

This passage can only be entered by small craft and boats under favourable circumstances, the entrance being closed with breakers when there is a heavy sea running, and especially when the strong tide is running out against the wind. There is a fishing establishment on the shingle point just within the entrance, and scattered houses and farms on either side.

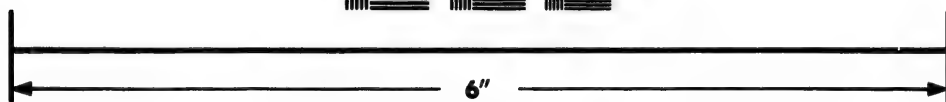
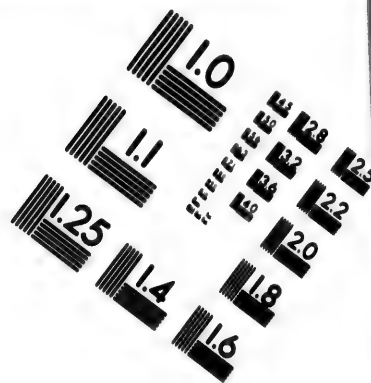
SYDNEY HARBOUR is one of the finest ports in the world, being equally easy of access and egress, and capable of containing any number of the largest vessels in safety. It is 3 miles wide at the outer entrance; but the navigable channel contracts rapidly to the breadth of half a mile between the two Bars, which are of sand and shingle, and extend from the shore on either side, at 5 miles within the lighthouse on Flat Point. Inside of these bars the harbour divides into the West and South Arms.

The town of Sydney is small, and is beautifully situated; the population (in 1849) did not exceed 500 souls, its increase having been greatly retarded by the transfer of the seat of Government consequent upon the annexation of the island to Nova Scotia. At present the principal business is carried on at the Coal Loading ground, within the N.W. Bar, where the railroad from the mines terminates; where a fast increasing village is springing up, and where the numerous vessels from the United States and the Colonies anchor, and take in their cargoes of coals.

The most convenient watering place is at the creek, which discharges the waters of the Sawmill Lake, a short distance to the westward of the Cape Loading Ground; but good water may be obtained on the east side of the South Arm, also opposite the town of Sydney, and in several other places where brooks enter the sea.

Light.—The lighthouse on Flat Point, on the east side of entrance to Sydney Harbour, is octagonal in shape, 51 feet high, painted red and white, vertically. It exhibits at 70 feet above high water a *fixed white light*, which is visible in clear weather from a distance of 14 miles.





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**23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503**



In beating into this harbour great care must be used, especially when between the N.W. and S.E. Bars, both of which are so steep, that the lead will afford little or no warning. There is, however, plenty of room; and with the aid of the Admiralty Chart, the intelligent seaman will experience no difficulty even in the largest ship.

It is high water, full and change, at the S.E. Bar, and also at the town of Sydney, at $8\frac{1}{2}$; the rise at ordinary spring and neap tides being, at the bar, $3\frac{1}{2}$ feet and $2\frac{1}{2}$ feet respectively; and at the town 5 and 4 feet. The ordinary rate of the streams is half a knot off the town, but much weaker further out in the wider parts of the harbour.

Indian Bay, at 5 miles to the south-east of the lighthouse on Flat Point, is open to the wind and swell from the eastward, and therefore affords a safe anchorage only in off-shore winds and fine weather.

The *coal mines* at Bridgeport, on the south side of Indian Bay, were formerly worked, and the coal conveyed by a railroad along the dry sand bar to a wharf at its northern extremity; but the shallow and narrow entrance, admitting only small vessels, and the unsafe anchorage outside, have caused these works to be abandoned for the present.

Glace Bay, 5 miles further to the south-east, affords no safe anchorage. *Cape Percy*, at 4 miles further to the eastward, is a precipitous headland, where the cliffs of coal-bearing sandstone rise 110 feet above the sea. Off its north side lies Schooner Rock, with 5 feet least water. The Percy Rock, with 7 feet water, lies 2 cables off the north-east shoulder of the cape.

Flint Island, bearing E. by S. $1\frac{1}{2}$ miles from Cape Percy, is of sandstone, broken by the waves, precipitous, 60 feet high. On its north point there is a fish store where alone boats can land off its west end, to the distance of 4 cables, there are very irregular soundings.

Between these dangers and the cape there is a clear channel a mile in breadth, through which an irregular tidal stream runs at times 2 knots.

Light.—The lighthouse, erected on the north-east of Flint Island, exhibits at 65 feet above water a *fixed white light*, which shows a bright *flash* every *fifteen seconds*, and is visible in clear weather from a distance of 12 miles.

MORIEN, or *Cow Bay*, is $2\frac{1}{2}$ miles wide at its entrance, between Capes Percy and Morien, or Murgain. On its north side, just within Cape Percy, lies Cow Reef, dry in part at low water, and extending to half a mile from the shore. The head of the bay is occupied by flats of sand and mud, partly dry at low water, and through which a narrow and shallow channel leads to False Bay Beach, on the north side of Mira Bay. Being completely open to easterly winds, Morien Bay affords no safe anchorage.

Cape Morien is a bold headland, the shoal water extending only $1\frac{1}{2}$ cables from its sandstone cliffs, and which abound in coal, and rise on its south side 150 feet above the sea.

MIRA BAY is also open to winds from the eastward, and affords no safe anchorage. It is of great extent, stretching in 9 miles to the westward of Cape Morien, and being $7\frac{1}{2}$ miles wide at the entrance between that cape and Moque Head.

Menadou Harbour (Main à Dieu), on the north side of Menadou Bay, three-quarters of a mile within Moque Head, is a semicircular cove, a quarter of a mile wide. Its shingle beach is occupied by fish stages, and its shores by a busy village of fishermen and small traders. It has two chapels, one of which is distinguished by a steeple; and the population, including those scattered around the bay, amounts to about 300 souls.

The depth at low water in this small harbour is from 10 to 14 feet, over sandy bottom. It is sufficiently sheltered by the numerous rocks in the bay, and by the Island of Scatari, to afford safe anchorage to fishing schooners and coasting vessels; but its entrance is very difficult and dangerous.

The **Menadou Passage** is a mile wide between Moque Head and the west point

of Scatari Island, and has a clear deep-water channel of nearly half that breadth in the narrowest part. Nevertheless, it should only be used in cases of emergency, or in such circumstances of wind and weather as would insure the not being surprised by the prevailing fog, in a channel rendered indirect by numerous dangers, destitute of good holding ground, and in which there is no shelter from the heavy sea which accompanies all easterly and southerly winds.

CAPE BRETON, the extreme eastern point of Cape Breton Island, is low, rocky, and covered with grassy moors. It is bold to the eastward, with the exception of a rocky 12-foot patch bearing S.S.E. $\frac{1}{4}$ E. a quarter of a mile. On the north side of the cape, at three-quarters of a mile, lies Lansecoin Island (L'Ance au Coin), in the mouth of a shallow bay. This island, which is about 2 cables in diameter, and 50 feet high, is bold to seaward; but a rock, dry at low water, lies between it and the cape.

Portnova Island lies off the south side of the cape, from which it bears S.S.W. $\frac{1}{4}$ W. three-quarters of a mile. It is rocky and precipitous, $1\frac{1}{2}$ cables in diameter, and 50 feet high. It is bold to seaward, with the exception of a rock with only 12 feet water lying $3\frac{1}{2}$ cables from its south-west side; but the Chameau Rock, which is awash, and on which a French frigate was lost, lies nearly midway between it and the cape, leaving no passage for ships.

SCATARI ISLAND, forming the extreme eastern dependency of Cape Breton Island, is in shape a triangle.

The natural features of this island are similar to those of the adjacent mainland, the highest hill rising 190 feet above the sea. It is not permanently inhabited, being reserved by the colonial government, but is much frequented by the fishermen in the summer season. Near the centre of its northern shore is the North-west Cove affording a smooth water anchorage in southerly winds; but the holding ground is not good.

Light.—The lighthouse on the north-east point of Scatari Island is octagonal in shape, painted white, and 70 feet high. It exhibits, at 90 feet above the sea level, a revolving white light, which is visible a minute and eclipsed half a minute. In clear weather the light should be seen from a distance of 15 miles. The lighthouse is furnished with a gun for signals, and a boat to assist vessels in distress.

The reefs off the south-west side of Scatari extend only 2 cables off shore; those off the north side are still shorter. The principal dangers are on the south-east side, where a reef runs out half a mile from Hay Island. Outside of this, and bearing South $1\frac{1}{2}$ miles from the lighthouse, lies the Wattie Rock, with 4 fathoms on it at low water; and still further out, and bearing S. $\frac{1}{4}$ E. $1\frac{1}{2}$ miles from the lighthouse, there are two rocky patches, 5 fathoms, on which the sea occasionally breaks.

The *Cormandière Rocks* lie nearly three-quarters of a mile to the eastward of the lighthouse. They are small black trap rocks from 6 to 16 feet high, and can therefore always be seen. They are bold to seaward, and there is no passage between them and the lighthouse for ships.

Scatari, like St. Pauls Island, has become celebrated for many fatal shipwrecks; but these casualties, (which have been mainly occasioned by the neglect of the lead, in vessels bound for the Gulf of St. Lawrence, and meeting the prevailing current on the starboard bow,) have been greatly diminished since the establishment of the light in the year 1839.

From Cape Breton to Cape Gabarus, a distance of 15 miles to the W. by S. the land is of moderate height, and the shore broken into coves and small harbours, with some hummocks in the back ground, rising to the height of 200 feet.

From Cape Gabarus to Michaux Point, the land is low and has a barren and rocky appearance.

The only safe harbour on this coast is Louisburg, which is distant 8 miles from Cape Breton; the intermediate shore possesses three small intricate harbours, Baleine, Little and Big Loran.

LOUISBURG HARBOUR.—Louisburg, once the principal seat of the French power, contains now only a few scattered houses, and the ruins of its walls may still be traced on the west side of the harbour. Its population of 250 persons is principally employed in the fisheries; but all cultivate small farms. Good water may be obtained from a brook near Gerald Head, on the western shore of the harbour. There are two churches on the north side of the harbour, but from sea they are not easily distinguished.

This harbour although small is favourably situated, and may be recognized by its lighthouse, which stands on the north-east point of entrance. The only well sheltered anchorage is in the north-east cove, the western part of the harbour being much exposed to the ocean swell. The harbour has but little trade, but being easy of access, is a favourite resort of the coasting vessels frequenting Sydney for coal. There are no branch pilots, but any of the fishermen are well qualified to bring vessels into the harbour.

Light.—The lighthouse standing on the north-east point of entrance to Louisburg Harbour is 35 feet high, and painted white with a vertical black stripe. It exhibits, at an elevation of 85 feet above high water, a *fixed white* light, visible in clear weather from a distance of about 16 miles.

GABARUS BAY.—From *White Point*, a low rocky point, 2 miles west from Louisburg, the land trends round to the W.N.W., forming a deep and capacious inlet, named Gabarus bay, which is 5 miles deep, and nearly 5 miles wide at its entrance, between Gabarus and White Point.

The centre of this bay is entirely free from danger, but on the north shore, South a quarter of a mile from Simon Point, lie some rocks nearly dry at low water; and a shoal with 18 feet on it extends S.W. by W. 3 cables from the same point.

The *Cormorant Rocks*, of bare slate, South 4 and only 15 feet high, lie off the northern shore of Gabarus Bay, 3 cables from Kennington Head. They are bold to their south side; but east from them, rocky ground extends 2 cables. Near the head of the bay, E.N.E. half a mile from the Harbour Rock (a low dry ledge) lies a rock with 18 feet water.

Gabarus Cove affords during the summer months tolerably safe anchorage in 4 fathoms, sand and clay, to vessels of moderate burden; but in the heavy gales of autumn, blowing from the east and north-east, there is so much swell and undertow, that vessels have been swept from their moorings and wrecked. The only anchorage in Gabarus Bay is the roadstead, north of Cape Gabarus.

Cape Gabarus, low and rocky at its extremity, may be recognized at the distance of some miles in clear weather by some houses and a shoal situated on the rising ground, half a mile inland from the cape. A rocky reef extends East 3 cables from the cape, and the Green Rock lies E.S.E. half a mile; whilst several islets, ledges, and rocks, lie at various distances to the south and south-west.

A vessel will pass to the southward of all these dangers by keeping the Shag Rock—of slate and 22 feet high,—open south of Guyon Island, which is low and bare of trees, and in line with the houses on the north side of Fourchê Inlet, bearing West.

Fourche Bay, between Cape Gabarus and Fourchê Head, a distance of 6 miles to the westward, are many rocks and shoals, inside of which is Fourchê Bay, affording no shelter, and dangerous of approach. Fourchê Head, the west extreme of the bay, is a hummock, bare of trees, and 40 feet high.

Pot Rock, with only 9 feet water on it, lies S.S.E. nearly a mile from Fourchê Head, and only breaks in heavy weather. The Shag Rock, kept in line with the Green Rock, and touching Cape Gabarus, bearing N.E. by E. $\frac{1}{2}$ E., will lead to the south-west of this danger, and outside all the shoal water in Fourchê Bay.

The **FRAMBOIS SHOAL**, with 4 fathoms least water on it, lies off the centre of Frambois Cove, at 2 miles distant from the shore. This cove, which is the next bight to the westward of Fourchê Inlet, affords no shelter. The *Seal Rocks*, a reef nearly dry at low water, lie 2 cables from the shore, and $1\frac{1}{2}$ miles to the eastward of Capelin Cove.

The *Tilbury Rocks* (upon which, at low water, are still visible the guns of a ship-of-war which was lost on it many years since), rise from a shoal of sand and stones, which extends half a mile from the shore at $1\frac{1}{2}$ miles to the westward of Capelin Cove.

Saintesprit Island, 30 feet high, of clay banks resting on slate, and partly wooded, lies $1\frac{1}{2}$ miles to the westward of the *Tilbury Rocks*. The island may be approached on its south side to a quarter of a mile. *Had Neighbour*, a rocky shoal with 3 fathoms water on it, lies S.W. by W. $1\frac{1}{2}$ miles from Saintesprit Island. *L'Archeveque Cove*, at $3\frac{1}{2}$ miles W.N.W. from Saintesprit Island, affords shelter at high water to small vessels drawing less than 6 feet. *Grand River* enters the sea about 4 miles east of Michaux Point, between *Red Head* (70 feet high) and *Bell Point*, which is a low shingle point, forming the east point of entrance, and from which shoal water and a reef, with only 6 feet on it at low tide, extends three-quarters of a mile to the W.S.W. *Black Breaker*, with 6 feet water, is a rock lying South one mile from Bell Point. Between Saintesprit Island and Michaux Point the shore is rocky and dangerous of approach.

Michaux Point, the eastern limit of Chedabucto Bay, is a wooded peninsula, not more than 40 feet high, joined to the main land by a beach of sand. The three low Basque Islets of clay resting on slate, lie East, and are distant one mile from it. There is deep water north of these islets as well as between the islets and Michaux Point; and in Michaux Cove there is good holding ground and some shelter to vessels during the prevalence of westerly winds, on which account coasters deeply laden occasionally anchor there. The water is deep to the southward of Michaux Point, but around the Basque Islets are several dangers.

The Basque Shoal, lying South three-quarters of a mile from the South Basque Islet, has 4 fathoms water on it, and breaks only in heavy weather. Red Island just open of Michaux Point, bearing N.W. by W., will lead to the southward.

At Michaux Point it is high water, full and change, at about 8^h; and the rise in spring tides is 5 feet, in neaps 4 feet, and neaps range 2 feet.

LENNOX PASSAGE, between Cape Breton Island and Janvrin and Madame Islands, is very intricate, and 15 miles in length, with a low-water depth of 18 or 19 feet in the shallowest part. There are seldom less than 23 feet at high water, nevertheless a great part of the channel is so narrow, crooked, and full of shoals, that it would require to be well buoyed before it could be safely navigated by large vessels.

It is, however, a safe and convenient channel for coasting vessels.

The Eastern entrance of Lennox Passage, between Cape Round and Mark Point, is $2\frac{1}{2}$ miles wide. The shoals off St. Peter Bay occupy much of that space, but still leave a clear channel a mile wide between them and Cape Round.

St. Peter Bay, which is 2 miles wide, opens immediately to the northward of the Samson Rocks and of the Horseheads Shoal on the North side of the channel, and may be approached either east or west of those dangers. It has excellent anchorage for any class of vessels, especially at Grande-grève on its eastern shore; but it is rendered almost inaccessible by the numerous rocky shoals scattered over the bay, and which could scarcely be avoided in a vessel of large draught without the assistance of buoys.

On the north side of the Haulover, or portage across to the *Bras d'or Lake*, there is a wharf at the ship-building establishment of Mr. Handley, and there is also a post office.

A canal has been more than once proposed at this place, and will probably be formed at no very distant day. A survey has been made for it by Mr. Wm. Fairbanks, an intelligent civil engineer of Nova Scotia. The distance across the neck of land is 2,400 feet; its greatest height, extending only for a small part of the distance, 45 feet, and the cutting easy. The advantage of such a canal to the numerous vessels engaged in the coal trade to and from the Sydney mines would be great.

PART IV.

THE SOUTHERN COAST OF NOVA SCOTIA, THE BAY OF FUNDY, ETC.

I.—CHEDABUCTO BAY TO HALIFAX HARBOUR.

CHEDABUCTO BAY, through which all vessels entering or leaving the Gulf of St. Lawrence by the Gut of Canso must pass, is $17\frac{1}{2}$ miles wide at the entrance, from Michaux Point to the lighthouse on Cranberry Island. The whole depth of the bay from the easternmost of the Canso Ledges to Guysborough is 28 miles.

MADAME ISLAND forms the southern boundary of Lennox Passage, and the northern shore of the entrance to Chedabucto Bay. Cape Hogan, its South end, is a remarkable rocky cliff.

Bay of Rocks, lying between the west end of Madame Island and Petitdegrat Island, is a dangerous place, affording no safe anchorage for ships, being open to all easterly winds, which send in a heavy sea. *Red Head*, the south-east extremity of Petitdegrat Island, is a remarkable cliff 70 feet high. Shallow water runs out from it a quarter of a mile.

Green Island, of slate, with precipitous shores, 90 feet high and a third of a mile long, lies a mile to the S.E. of Red Head. It is bold all round.

The Orpheus Rock (called Boss by the fishermen) lies E.S.E. $1\frac{1}{2}$ miles from Green Island. It is awash at low water, and the sea consequently almost always breaks on it; otherwise it would be still more dangerous than it is. It is small, with deep water all around.

Cerberus Rock, just awash at low tide, with deep water all round, and lying directly in the way of vessels to and from the Gut of Canso, is exceedingly dangerous in dark nights and foggy weather; in the daytime either breakers or a rippling over it can almost always be seen. It bears from Arichat Head, the nearest land, S.S.W. $2\frac{1}{2}$ miles; and is rather more distant from Jerseyman Island, on a W.S.W. line of bearing.

Cape Hogan and Green Island in one, bearing E. by S. $\frac{1}{2}$ S., will lead clear to the southward of the Cerberus at the distance of 4 cables; to avoid this danger in a vessel bound to the westward, keep some part of Green Island in sight to the southward of Cape Hogan until the easternmost church at Arichat is seen over the shingle isthmus uniting the two peninsulas of Jerseyman Island, or until Arichat Head bears N.E. by N.; then the course may be safely shaped direct for the Gut of Canso.

ARICHAT HARBOUR.—This spacious and secure harbour, capable of containing any number of the largest ships is sheltered by Jerseyman Island, which stretches across the bay. It has two entrances, of which the western is the least difficult for strangers, although only a cable wide.

The straggling but well placed town of Arichat extends nearly 3 miles along the bold and steep north shore of the harbour, where there are many wharves and stores.

Arichat is the head quarters of the fisheries in its neighbourhood, and the most important seaport, both in commerce and in population, on the Atlantic coast of Nova Scotia eastward of Halifax. The population of the town and the immediate vicinity in 1850 was estimated at 3,000, and that of the whole of Madame Island at 5,000.

The usual watering place is at a spring near Hubert's Wharf, where good water may be obtained on payment of a small sum.

Light.—The lighthouse erected on Marache Point, on the east side of the eastern entrance to Arichat Harbour, is a square, wooden, and white building, showing at 34 feet above the sea at high water a *fixed white light*, visible in clear weather from a distance of 8 miles. Marache point is quite bold to the westward, with the exception of two small rocky patches which lie off it at the respective distances of 3 and 4 cables to the N.W., and on which the least water is 4 fathoms.

If bound to Arichat from the eastward, with a leading wind, that is, any wind from S.S.E., round south, to W.N.W., a vessel will pass the Hautfond Shoals a mile to W. by S. $\frac{1}{2}$ S. of Marache Point, by keeping some part of Green Island in sight to the southward of Cape Hogan, until the easternmost church at Arichat appears only a little open to the eastward of Jerseyman Island, bearing N.E. by E. $\frac{1}{2}$ E. Having brought the church steeple on that line of bearing, steer for it, but keeping it a little open, until the lighthouse on Marache Point bears S.E. by E., or until the Henley Ledges, black rocks generally showing two-thirds of a mile S.W. of Jerseyman Island, are in one with Arichat Head, the western extremity of Creighton Island, bearing N.W. by N., and are distant a quarter of a mile. Then steer E. $\frac{1}{2}$ N., and as soon as the steeple of the westernmost church at Arichat opens a little to the eastward of the minister's flag-staff, bearing North, run towards it until the southern extremity of Creighton Island is seen through the Grid Pass. The vessel being then within Poule Reef, may safely haul to the westward, and select a berth at pleasure in the most roomy part of the harbour, anywhere to the north of the line from Poule Islet to Beach Point. South of that line the eastern bight of Jerseyman Island contains the Cage Shoal, with only 7 feet water, and much foul ground.

In approaching Arichat from the westward, the only outlying danger, besides the Cerberus Rock, is the Creighton Shoal, W., $\frac{1}{2}$ of a mile from Arichat Head.

It is high water at Arichat, full and change, at 8^h 10^m; and the ordinary rise is from 4 to 5 feet; but extraordinary springs may rise 6 feet.

From Cape Argos to Guysborough, at the head of Chedabucto Bay, a distance of 12 miles, the prevailing features are peninsulated points of drift sand, clay, and boulders, resting on sandstone, and presenting low cliffs to the sea. These are united to the main land by beaches of shingle, inclosing large ponds, in the rear of which are the houses of a scattered population, subsisting by fishing and farming, and situated on the southern slope of ridges rising to the height of 200 feet above the sea.

Hydra Rock, one of the greatest dangers in Chedabucto Bay, lies directly off Grady Point, $3\frac{1}{2}$ miles westward of Cape Argos, and from which it bears S.S.E. $\frac{1}{2}$ E., and is distant $1\frac{1}{2}$ miles. It carries 12 feet least water. The mark for passing a quarter of a mile to the south-east of it, is Cape Argos and Thomas Head touching, bearing N.E. $\frac{1}{2}$ N.

Guysborough Harbour, at the head of Chedabucto Bay, is an extensive inlet, running in to the northward, with a depth of water sufficient for vessels of large draught; but with such a dangerous bar, an entrance channel so narrow and crooked, and such rapid tides, that no written directions could be available. The assistance of a pilot acquainted with every local peculiarity of the tides and winds is indispensable for the safety of a vessel even of very moderate size, either in entering or leaving this harbour.

Light.—The lighthouse which stands on the end of the shingle beach of Peart Point, on the west side of the entrance to Guysborough Harbour, is a temporary structure of wood, 20 feet high, square, and painted white. It exhibits at 30 feet above the level of high water, a *fixed white light*, which in clear weather is visible from a distance of 7 or 8 miles.

From Cape Canso to Guysborough, a distance of 25 miles, the south coast of Chedabucto Bay is composed of primary rocks, partially covered with drift sand, clay, and boulders. The climate is not favourable to agriculture. But fishing, not farming, is here the great business of life, as it has been ever since the first settlement in this

country. Cod-fish, herrings, and mackerel swarm along these shores, and the latter especially are taken in incredible numbers, both in the spring and fall of the year, by the numerous schooners occupied in this important pursuit.

CAPE CANSO is a low islet, nearly joined to the east point of Andrew Island; and the Cape Rock, small and 8 feet high, will be seen off it $1\frac{1}{2}$ cables to the S.E. by S. At $1\frac{1}{2}$ miles to north-west is Glasgow Head, a remarkable red clay cliff 50 feet high. An equal distance farther in the same direction, along an unbroken shore, is the town and harbour of Canso.

Cranberry Island and Lighthouse marks the east side of the entrance of the channel into Canso Harbour. The island is low, rocky, and a quarter of a mile long. The lighthouse stands near its northern end, and is of wood, octagonal in shape, 60 feet high, and painted with red and white horizontal stripes.

It exhibits two fixed white vertical lights, 85 feet apart. The upper light, 75 feet above high water, can be seen from a distance of 16 miles; the lower being an inferior light, 40 feet above high water, only from a distance of 9 miles. They bear from Cape Canso, N.E. by N. $1\frac{1}{2}$ miles; but dangers on either side reduce the breadth of the clear channel to half a mile.

CANSO HARBOUR is a place of considerable historical as well as nautical interest. It was visited by the French fishermen and fur traders as early as the sixteenth century, and during the next two hundred years it was the frequent scene of French and Indian warfare with the British colonists.

The position of this harbour, at the southern entrance of the great Bay of Chedabucto, through which such numbers of vessels are continually passing, gives it an importance that it would not otherwise possess. Many vessels pass through the harbour in order to avoid going round the dangerous rocks and ledges which lie outside of it, and it is frequented by many others engaged in the fisheries, or using it as an occasional anchorage.

The harbour is formed by Piscatiqui and George Islands on the east, and by the mainland and Durell Island on the west. The entrance to the harbour is between Grave Island and Cutler Island, towards the wharves of the town, off which the anchorage is quite secure, with water for vessels of the largest draught; but the Ship Channel, which runs through into Chedabucto Bay, passes to the eastward of those islands, between them and Piscatiqui. The least water is in this channel, 4 fathoms, is on a bar which stretches across from Grave Island to Piscatiqui Island.

The town of Canso is on the mainland, the more ancient part standing on hills of red sand, clay, and large boulders. The church, built on the summit of a ridge 100 feet high, is a conspicuous object seen over the islands from a great distance at sea. The newer part of the town together with the two chapels, are further westward, along the shore of the Tickle, a narrow boat channel separating Durell Island from the mainland. The whole forms a long straggling village, with a population of about 600. Near the north point of Durell Island, which is $1\frac{1}{2}$ miles long, is Flag Hill, 105 feet high, which is used as an important leading mark. But without the special chart of the harbour or the most intimate knowledge no one should attempt to enter this dangerous navigation. Written directions are therefore of little avail.

It is high water, full and change, in Canso Harbour at 7^h 48^m; ordinary springs rise 6 $\frac{1}{2}$ feet, and neaps 4 $\frac{1}{2}$ feet.

The East Rock, of bare granite and 20 feet high, bears from the lighthouse on Cranberry Island N. $\frac{1}{2}$ W. $1\frac{1}{2}$ miles; and to the east of the line joining them lie a number of dangerous rocks with deep water between them.

The Bass Rock has 6 feet least water, and therefore breaks frequently. From it the lighthouse bears W. by S. $2\frac{1}{2}$ miles; and the church steeple at Canso, and the southern extremity of Petit-pas, appear in line.

The Grime Rock has 12 feet least water, and is therefore only shown by breakers when the sea is heavy. It lies further out than the Bass Rock, from which it bears N.E. $3\frac{1}{2}$ cables; and there is a patch of 28 feet water a quarter of a mile

to the eastward of it. From the Grime Rock the lighthouse bears W. by S. $\frac{1}{2}$ S., distant $2\frac{1}{2}$ miles, and the church steeple at Canso, the southern extremity of Grassy Island, the northern end of Petit-pas, and Park ledge, all appear in one, and open a little to the southward of Crow Island. These last-named rocks are the outermost of the Canso Ledges, and lying off a great headland which so many vessels are continually rounding, and in a region celebrated for fogs they are exceedingly dangerous.

In passing round these dangers in thick weather, great caution and the constant use of the lead are indispensable. If the approach be from the northward, remember that they lie only 4 cables within the 30 fathoms edge of the bank; if from the southward and eastward, go into no less than 25 fathoms until the soundings indicate that the vessel is off the bank to the northward; and, lastly, in clear weather, do not haul to the westward into Chedabucto Bay until the high land of Black Point opens to the northward of Derable Island, bearing W.N.W.

Dover Bay, two miles S.W. from Andrew Island, is $2\frac{1}{2}$ miles wide at the entrance, and is 4 miles deep to the N.N.W., but although so extensive, it affords no shelter for ships, being filled towards its head with islets and rocks above and under water, which only small craft and boats could find their way among. *Louse Harbour*, on its western shore, one mile within Dover Head, has depth and space sufficient for large vessels; its entrance, to the northward of Louse Island, has $3\frac{1}{2}$ fathoms water in it, but it is only about 30 fathoms wide.

The White Point Ledges extend $5\frac{1}{2}$ cables to the southward of White Point, the east point of Dover Bay; and the White Rock, with 5 fathoms water on it, and which breaks after heavy gales, lies nearly half a mile further off, with the point bearing N. by W. one mile. The *Gannet Shoal*, with 9 feet water on it, lies East one mile from White Point; and there are other rocks to the northward of it. The soundings are so deep and irregular near these dangers that the lead will afford little or no warning at night or in thick weather; but in the day time Cranberry Island Lighthouse kept open to the eastward of the trees on Cape Canso, bearing N.E. $\frac{1}{2}$ N., will lead to the eastward of the Gannet Shoal, the White Point Ledges, and the White Rock. Off Dover Head, the west point, also are several shoals which lie nearly a mile off shore.

Port Howe, or Raspberry Harbour, on the south coast, at about three leagues westward from Cape Canso, is small, and the shores within quite bold. It is very dangerous to approach, but may serve as a harbour of refuge if the shoals in its entrance be avoided. At the entrance, on the eastern side, is an island, having a ledge close to it on the S.E. By rounding this ledge, you may steer directly into the harbour, and come to an anchor under the island, which lies in the middle of it, in the depth of 7 fathoms, where you will lie safely.

There are dangers on each side in entering: the *Whale Rock and Shoal* to port, and the *Dover Shoal and Snorting Rocks* to starboard. The mark for running in is a black rock off Fluid Point, the west entrance, and a remarkable sugar-loaf hill 180 feet high a mile inland, bearing N. $\frac{1}{2}$ W.

Whitehaven, which is two leagues to the westward of Port Howe, is a place of desolate aspect. Of its rocky islets, the larger and outer one, called White Head, from the colour of its sides, is 120 feet above the level of the sea.

White Head Island Light.—White Head Island, 8 cables long; lighthouse on its south-west point stands on the bare rock, and is a square wooden white building, 35 feet high, showing a *flashing light*, alternately flashing and eclipsing every ten seconds. The light is elevated 55 feet above the level of the sea at high water, and should be seen in clear weather from a distance of 11 miles.

The East Bull, one of the outer dangers of the eastern entrance to Whitehaven, lies in 6 feet water, with the lighthouse bearing N.W. distant 6 cables. Midway between it and Millstone Island, there is a rocky shoal carrying 20 feet water. The entrance to the Eastern passage into Whitehaven Harbour is between this shoal and Millstone Island. This channel is very narrow and intricate.

South-west Bull, with 5 feet water on it, lies with the lighthouse bearing N.E. distant $6\frac{1}{2}$ cables. Dover Head, open to the southward of Millstone Island, bearing E. by N., leads to the southward of both the East and S.W. Bulls.

Black Ledge dries at low water. Its western extremity bears from the lighthouse W. $\frac{1}{2}$ N., rather more than one mile. The *southern passage* into Whitehaven Harbour is to the eastward of all these, including the S.W. Bull, and between them and White Head Island.

Inner and Outer Gull Ledges and Bald Rock extend nearly a mile to the southward from Deming Island, which, being united to the mainland at low water, forms the western point of entrance to Whitehaven, half a mile wide. Ledges and rocks are above water; one, bearing N.E. by E. $\frac{1}{2}$ E., leads clear to the south-east of it.

Threestop Island, in the entrance, may be easily recognised by the three remarkable hills, 50 or 60 feet high, from which its name is derived. The Ship Channel is to the eastward of it, and is 2 cables wide at entrance.

It is high water, full and change, in Marshal Cove, Whitehaven Harbour, at 8^h 0^m; springs rise 6 feet, and neaps 4 feet.

To run into Whitehaven Harbour in a steamer or with a fair wind through the Western Passage and Ship Channel, attention must be paid to the Outer Gull Ledge on the one side, and the Bulls and Black Ledge on the other. It is seldom that the Black Ledge or the breakers on it cannot be seen, and it may then be passed at any distance between one and 4 cables.

Torbay.—The entrance of this bay is formed on the west by a headland, called *Berry Head*. The channel in is between this head and the sugar islets to the eastward. On the west side the greatest danger is the *Gull Rock*, with 12 to 15 feet water, with Berry Head bearing N.E. $\frac{1}{2}$ E. one mile; and the *Shag Rock*, west $1\frac{1}{2}$ miles. On the eastern side are the still more dangerous *Torbay Ledges*, of which the outermost, the *French Rock*, with 10 feet, lies with Berry Head N.W. by W. $\frac{1}{2}$ W. $1\frac{1}{2}$ miles. *Shag Rock* and *New Harbour Head*, 5 miles to the W., in one, bearing W. $\frac{1}{2}$ N., leads clear to the south of all. Within the bay, under the western peninsula, there is excellent anchorage in from 6 to 4 fathoms, muddy bottom, up to the eastern part of the bay. There is also anchorage on the western side of the bay, in from 7 to 3 fathoms, similar ground, where a vessel may lie in safety during any gale.

Mr. Dunsterville says, on going into Torbay, give Berry Head, the S.W. point, which is very low, a small berth of half a mile, as a shoal bank extends off it. To the S.E. by E. of it, about two miles distant, are some rocky heads, near which we sounded in from 7 to 9 fathoms. The *Ranger* beat in and anchored in 7 fathoms, within the *Webber Shoal* of 2 fathoms, hard bottom. This bank lies directly in the fairway, in going toward the anchorage. It lies about half a mile from the south shore. A large white rock on the shore lies abreast of it. In the fairway you will have from 7 to 9 fathoms. Lobsters abound here, near a sandy bay on the south shore. In two hours I speared from 60 to 80.

From Torbay, westward, to Country Harbour, the country, in general, continues rocky and sterile, with deep water close in, but regular soundings without, and from 30 to 20 fathoms of water. **CODDLE'S HARBOUR**, which is $3\frac{1}{2}$ leagues to the westward of Berry Head, affords shelter to small vessels only; and these enter on the eastern side, to clear the breakers. No written description will suffice.

Country Harbour.—This fine harbour is navigable to the largest ships, nine miles from the entrance. It is, at present, but thinly settled. The shores are bold; the anchorage soft mud, with a depth of 13 to 5 fathoms. It is readily made out by Country Harbour Head, a bold headland of 160 feet high, on its W. side, within which the shores are steep on each side. At $4\frac{1}{2}$ miles within it, on the same side, is Mount Misery, a remarkable round hill 140 feet high.

The ledges off the harbour generally break, and between them are deep passages. The *middle ledge*, or *South-Eastern*, which lies off the entrance, is dangerous at H.W.

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The rocks on the west of the entrance, named *Custor* and *Pollux*, are above water and bold-to. When above them, give Cape Mocodome a good berth, so as to avoid the *Bull*, a dangerous sunken rock, that breaks in rough weather, and lies about half a mile from the extremity of the Cape.

The islands on the east side of the entrance, *Green Island*, *Goose Island*, and *Harbour Island*, are low, and covered with scrubby trees. Within Harbour Island is excellent anchorage. To the South and S.W. of these islands are several shoals, called the *Shoal Place* and the *Tom Cod Shoals*, one of which covers at high water. The summit of Mount Misery in one with Country Harbour Head clears all these shoals and leads up to the harbour entrance.

FISHERMAN HARBOUR, on the west of Country Harbour, is a favourite resort of fishing vessels, it having a shingly beach, forming an elbow, and very convenient for drying fish. Off its extreme is the Black Ledge.

PORT BICKERTON, to the west of Fisherman Harbour, is safe and convenient, but fit for small vessels only. At two miles to the west of it is HOLLIN'S BAY, a place of shelter for coasters, and resorted to by the fishermen. INDIAN BAY is a shallow and unsafe creek, but has good lands, well clothed with pine, maple, birch, and spruce. At its head is a large fresh water pond, around which are the houses of the settlers. The next inlet, called WINE COVE, has a bar of sand, which is nearly dry. These are a few, and but few, settlers on these harbours.

ST. MARY'S RIVER.—The navigation of this river is impeded by a bar of 12 feet of water, which extends across, at the distance of a mile and three-quarters above Barchois Point, the west point of the entrance. Below the bar, toward the western side, is a middle ground, which appears uncovered with very low tides; and above the bar, nearly in mid-channel, is a small rocky islet. The passage over the bar is on the eastern side of this islet. The tide, which is very rapid, marks out the channel; the latter is devious, between mud-banks, extending from each shore, and dry at low water. The depths upward are from 24 to 18 feet. A pilot is necessary for entering. The town of SHERBROOKE is at present a village of 300 persons, at the head of the river, about three leagues from the sea.

The islet called WEDGE ISLE, which lies at the distance of half a league south from the S.W. point of St. Mary's River, is remarkable, and serves as an excellent guide to the harbours in the neighbourhood. A beacon, erected upon it, 100 feet above high water, may be seen from 8 to 10 miles off. The side of this islet, toward the main land, is abrupt, and its summit 115 feet above the sea. From its S.W. end ledges extend outward to the distance of half a mile; and some sunken rocks, extending toward it from the main, obstruct the passage nearly half-way over. At 2½ miles south from the Wedge is a fishing-bank of 30 to 20 feet.

The harbour of JEGOGAN may be readily found, on the eastward, by Wedge Isle, above described; and, on the westward, by the bold and high land called Redman Head. The passage in is at the distance of a quarter of a mile from that head; because, at the distance of three-quarters, is a dry ledge, called the SHAG. Within the small island on the east side of the entrance, called TOBACCO ISLE, there is anchorage in 4 or 5 fathoms, muddy bottom.

LISCOMB HARBOUR.—The entrance into this harbour, which is one of the best on the coast, is between Liscomb Island and the headland on the west, called Liscomb or White Point. From the S.E. end of Liscomb Island, a ledge, with breakers, extends to the distance of three-quarters of a mile. Within and under the lee of the island is safe anchorage in from 13 to 8 fathoms. On the N.E. of the island, a vessel caught in a S.E. gale may be sheltered at Redman Head, already described, with the Head S.S.E. in 6 and 7 fathoms, bottom of clay.

On the west side, the ground from Point is shoal to the distance of nearly a mile S.S.E.; and at 2½ miles south from the point, is a rock, on which the ship *Black*

Prince was lost. It constantly breaks, and is partly uncovered. The island-side is bold.

Hanbolt Rock, the most outlying danger, has 27 feet water on it, and lies nearly South 4 miles from Liscomb Point and $1\frac{1}{2}$ miles from the Black Prince. It seldom breaks. *Sand Shoal*, with 9 feet water on it, lies South 3 miles from Liscomb Point. *Black Prince Shoal*, on which the ship of that name was lost, uncovers at half-tide, and generally breaks heavily, lies also South from Liscomb Point, distant 2 miles. *North-east Breaker and Lump Rock* lie respectively N.N.E. 6 $\frac{1}{2}$ cables and North 9 cables from the Black Prince; the former has 4 feet, and the latter 11 feet water on it.

The conspicuous church steeple which has lately been built in Liscomb Harbour, in line with Smoke Point bearing nearly North, leads to the eastward of all these shoals excepting the N.E. Breaker, which may be cleared by opening the steeple about mid-way between the points of entrance.

On the east side of the channel leading to Liscomb Harbour is the *Saddle Rock*, with 5 fathoms water on it, bears S. $\frac{1}{2}$ E. from the E. point of Liscomb Island Crook Point, distant $2\frac{1}{2}$ miles. The *Channel Rock*, lying S.E. $2\frac{1}{2}$ miles from Crook Point, has 3 fathoms water on it, and breaks when there is much swell. Smoke Point well open of Cranberry Head, leads to the westward; and the Black Prince in line with South point of Barren Island, leads to the southward.

The first direction of the harbour is nearly north, then W.N.W. Opposite to the first fish-stage, at half a mile from shore, is as good a berth as can be desired, in 7 fathoms. From this place the harbour is navigable to the distance of four miles: it is, however, to be observed, that there are two sunken rocks on the north side.

BAY OF ISLANDS.—The coast between Liscomb and Beaver Harbours, an extent of six leagues, is denominated the BAY OF ISLANDS. Within this space the islets, rocks, and ledges are innumerable. They form passages in all directions, which have, in general, a good depth of water, but are much too intricate to be managed by strangers. At the eastern part of this labyrinth, near Liscomb, is *MARIE-ET-JOSEPH*, an excellent harbour, having entrances east and west, the settlers on which keep herds of cattle, &c. A church stands on the high ground near Smith Cove, and is visible from the sea. The entrances are narrow, and should not be attempted without a pilot by any vessel drawing more than 9 feet. Supplies can be procured from the inhabitants.

The **WHITE ISLANDS**, nearly half-way between the harbours of Beaver and Liscomb, appear of a light stone colour, with green summits. The latter are 80 feet above the level of the sea. The isles are bold on the south side; the passage between them safe; and there is good anchorage within them, in from 10 to 7 fathoms.

BEAVER ISLAND, and Light.—This island is 40 feet high, is partially covered with scrubby trees, and its slate cliffs show white to seaward. In bad weather boats may be saved at high water by entering the gully, which separates the two parts of the island. A house, 35 feet high, stands on the east end of Beaver Island, and exhibits, at 70 feet above the level of the sea at high water, a *white* light which *revolves* every two minutes, and is visible in clear weather from a distance of 12 miles. The house, on the roof of which the lantern is placed, is painted white, with two black balls to the S.S.W.

Beaver Harbour is too intricate to be recommended to a stranger: the islands off the entrance, however, may occasionally afford shelter from a southerly gale.

In June, 1831, H.M. ship *Ranger* visited Beaver Harbour, and found it much exposed to S.S.E. winds; but it has a little cove, with 3 $\frac{1}{2}$ fathoms therein, which affords shelter at all times to small craft. There are several sunken rocks in going in, which, in a high sea, show themselves. However, it is certainly not a place that can be recommended. Fish and lobsters abundant.

Sheet Harbour.—This fine harbour is nearly in the half-way between Country Harbour and Halifax. It is very extensive, though but thinly settled, and the deep navigable water continues to the falls, which are about nine miles above the entrance.

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SPRY, OR TAYLOR'S HARBOUR—POPE HARBOUR.

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of the harbour. The name is derived from a blank cliff, on a rocky isle at the entrance, which appears like a suspended sheet.

Without the harbour are the several ledges shown on the Charts, which render its approach on dark nights, or during the prevalent fogs, perilous in the highest degree. Many of these ledges show themselves, but the outer one, called by the fishermen *Yankes Jack*, and which, when the sea is smooth, is very dangerous, having only 3 feet on it. It bears from Taylor Head, the eastern point of Spry Bay, S.E. by S. 2 $\frac{1}{2}$ miles. Besides this, numerous other very dangerous patches have been correctly placed on the new Survey; but, as a Chart on a large scale would be required to explain their relative position, the description is omitted here.

Within the entrance is a rock, two feet under water, which will be avoided by keeping the Sheet open of the island next within it on the eastern side. In sailing or turning up the harbour, give the sides a very moderate berth, and you will have from 11 to 5 fathoms, good holding ground.

The flood at the entrance of Sheet Harbour sets S.S.W. about one mile an hour. High water, full and change, at 8 $\frac{1}{2}$ 6 $\frac{1}{2}$. Tides rise 7 feet.

MUSHABOON, to the westward of Sheet Harbour, is a small bay, open to the S.E., which affords shelter at its head only, in from 7 to 5 fathoms, muddy bottom, and scarcely deserves the name of a harbour.

Spry or Taylor's Harbour.—Cape Spry, or Taylor's Head, divides Mushaboon from Spry or Taylor's Harbour. On the west side of the latter are two large islands, called Gerard Islands. Cape Spry is destitute of trees; and, being composed of large white rocks, is distinguishable afar off. From the point of the Cape, westward, is a low shingly beach, which is shoal to the distance outward of one-third of a mile.

On the opposite side of the harbour is a sunken ledge and a large dry rock: these may be passed on either side, whence you steer for the eastern point of Gerard's Island, and sail close along it, as a sunken rock lies off it at the distance of 300 yards. The rest of the way is clear, up to the anchorage. This harbour is open to the S.E. and E.S.E. winds.

The principal dangers to be avoided in approaching Spry Harbour, are in and off the mouth of Spry Bay; the outermost being Redman Shoal of 5 fathoms, from which Taylor Head, the eastern point of the bay, bears N.E. $\frac{1}{2}$ E., 14-10 miles. The dangers on the western side of Spry Bay are the *Herring* and *Maloney Shoals*. The latter, which has 12 feet water on it, and is of considerable extent, is by far the most in the way. Its bearing from Maloney Rock, which is always above water, is S. by W. $\frac{1}{2}$ W., and distance from half to two-thirds of a mile. *Neverfail Shoal*, with 17 feet water on it, lies E. $\frac{1}{4}$ S. a quarter of a mile from Maloney Rock; and from it Tomlees Head and Leslie Island appear touching, and bearing N. $\frac{1}{2}$ E. *Ram Rock* is the only other danger in the way on the western side of Spry Bay. It dries at low water, and lies E. by S. $\frac{1}{4}$ S., about 1 $\frac{1}{2}$ cables' length from Lawler Point. *Mad Moll Reef*, the principal danger on the eastern side of Spry Bay, runs out W. by S. nearly a mile from Taylor Head. On it there are two patches of shingle, which are always above water.

Pope Harbour, (or *Deane Harbour*), on the western side of Gerard Isles above mentioned, has a ledge at its entrance, forming an obtuse angle at the two points, at three-fourths of a mile from each, and from which a shoal tails to the southward half a mile. It may be passed on either side; but, on the west, care must be taken to avoid a shoal extending from the outer Tangier Island. The best shelter is under the smaller island on the eastern side, where there are from 8 to 6 fathoms, with good clay ground.

The *Horse Rock*, a formidable danger of only 4 feet water, is the furthest out bearing from Pope Rock, above water S.S.E. $\frac{1}{2}$ E. 1 $\frac{1}{2}$ miles and in line with it and the E. end of Ironbound Island. Between them are several other dangerous shoals, which must all be left to westward; to the eastward they are few and easily avoided. The neighbourhood is more thickly settled than usual, and a church steeple and a chapel afford marks for entering by the aid of a large Chart.

TANGIER HARBOUR, next to Deane or Pope's, is formed by craggy barren islands, which secure vessels from all winds. At about two miles from its mouth is a ledge that dries at low water. The anchorage is under the eastern shore, 5 to 4 fathoms, stiff mud; but it is too shallow and rocky for large ships.

SHOAL BAY.—(*Saunders Hr. of Des Barres.*)—This bay has a good depth of water and excellent anchorage. The latter is to the northward of the island called Charles Island, and vessels lie in it, land-locked, in 7 fathoms. Off the mouth of the harbour is a rock, that always breaks, but it is bold-to, and may be passed on either side. Some parts of the harbour will admit large ships to lie afloat, alongside the shore, over a bottom of black mud. Supplies of stock, &c. may be obtained from the inhabitants of this place.

Ship Harbour.—In this harbour, and on the isles about it, are about twenty families, who keep small stocks of cattle, &c. The entrance is deep and bold; it lies between two islands. A white cliff, which may be seen from a considerable distance in the offing, is a good mark for the harbour: at first it resembles a ship under sail; but on approaching seems more like a schooner's topsail. There is good anchorage in every part of the harbour, and, above the Narrows, a fleet of the largest ships may lie. *Brier's Island*, above mentioned, is a low rugged island, and ledges, partly dry, extend from it three-fourths of a mile to the eastward; avoiding these, when entering this way, you may range along the western island and come to an anchor under its north point, in 6 or 7 fathoms, the bottom of mud.

There are several outlying dangers, which are equally in the way of vessels running along the coast, or approaching this harbour. These are, *Little Rock*, bearing from Flat Ledge S.S.E. about two miles; *Broad Shoal*, from Charles Point S. by E. easterly $1\frac{1}{2}$ miles; *Silver Shoal*, from Charles Point S.E. $\frac{1}{2}$ S. $3\frac{1}{2}$ miles, and from the south-east point of Outer Island nearly South $2\frac{1}{2}$ miles. The least water on the two first is 4 fathoms, and on the last 5 fathoms. The sea breaks occasionally over them after heavy gales. It is high water, full and change, in Ship Harbour at 7^h 54^m; ordinary springs rise 6 $\frac{1}{2}$ feet, and neaps 4 $\frac{1}{2}$ feet.

OWL'S HEAD BAY, which is next to the west of the harbour last described, although smaller than many other harbours on the coast, has sufficient space for a fleet. It may be known at a distance by Owl's Head, on the western side, which appears round, is abrupt, and very remarkable. The neighbouring coast and islets are rugged and barren, but the harbour has a few settlers.

The entrance is of sufficient breadth to allow a large ship to turn into it. In taking a berth, you will be guided by the direction of the wind; as with a S.W. gale the western anchorage is to be preferred, and the eastern with a S.E. The chief danger to be avoided is the Owl Rock on the eastern side with 9 feet water $\frac{1}{2}$ of a mile S.E. $\frac{1}{2}$ E. from the S. point of Friar Island.

JEDORE HARBOUR.—(*Port Egmont of Des Barres.*)—From the appearance of this harbour on the Charts, it might be presumed that it is spacious and commodious; but, on examination, it will be found that it is really different. The entrance is blind and intricate, only $3\frac{1}{2}$ cables inside with 26 feet least water. *Thorn Shoal*, of only 9 feet, lies at its mouth; the channel within narrow and winding; extensive mud-flats, covered at high water, and uncovered with the ebb; hence a stranger can enter with safety only at low water, the channel being then clearly in sight, and the water sufficient for large ships. The best anchorage is abreast of the sand-beach, two miles from the entrance, in from 9 to 6 fathoms, bottom of stiff mud. It may be used as a harbour of refuge in case of strong necessity, but without a Chart on a large scale any directions would be almost unintelligible.

Between JEDORE and HALIFAX, there are no harbours of any consideration for shipping, but there are numerous settlements. The land in this extent is, in general, of moderate height, rising gradually from the shore. Red and precipitous cliffs, the characteristic of the eastern coast, may be seen from seven to nine miles off. The best harbour is that called **THREE-FATHOMS HARBOUR**, which has occasionally received large vessels in distress. This harbour lies immediately to the east of an islet called *Shut-in Island*; and, with the wind on shore, is difficult and dangerous; so that it is

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to be attempted only in cases of real distress. The channel lies two-thirds over to the northward from Shut-in Island, and turns short round the starboard point to the westward.

In beating to windward, ships may stand to within a mile and a half of the shore, the soundings being tolerably regular, from 20 to 12 and 8 fathoms.

II.—SABLE ISLAND AND BANKS OF NOVA SCOTIA.

SABLE ISLAND.—The following description of this dangerous place is derived from those given by Capt. Darby, for many years the resident superintendent, and those remarks resulting from the Admiralty Survey, as given by Rear-Admiral Bayfield:—

The west flag-staff on Sable Island is in lat. $43^{\circ} 56' 24''$ N., long. $60^{\circ} 2' 47''$ W.; the west extremity of the grassy sand-hills in lat. $43^{\circ} 56' 44''$ N., long. $60^{\circ} 8' 28''$ W.; and the east extremity of the grassy sand-hills in lat. $43^{\circ} 58' 57''$ N., and long. $59^{\circ} 45' 30''$ W. Such was its position in 1852, but the island has been wasting away at the west end for many years past, sometimes almost imperceptibly, at other times several miles have been swept away by the winds and waves during a single heavy gale. The east end has changed very little, if at all, during the last 30 or 40 years. The distance of the island from the lighthouse on White Head Island, the nearest part of Nova Scotia, is 86 miles.

Sable Island, seen from the north, at the distance of 9 or 10 miles presents the appearance of a long range of sand-hills, some of which are very white. From the south the range of white sand appears more continuous, and very low towards the west end. On a nearer approach many of the sand-hills are seen to have been partly removed by the waves, so as to have formed steep cliffs next the sea. In other parts they are covered by grass, and defended by a broad beach, which however cannot be reached without passing over ridges of sand covered only with a few feet water. These ridges, which are parallel to the shore at distances not exceeding one-third of a mile, form heavy breakers, and are dangerous to pass in boats, when there is any sea running.

The island is formed of two nearly parallel ridges of sand, shaped like a bow, concave to the northward, and meeting in a point at either end. Its whole length, following the curve, and including the dry parts of the bars, is 22 miles; or E. $\frac{1}{2}$ S. $20\frac{1}{2}$ miles, in a direct line across the curve; its greatest breadth is exactly one mile. In some parts it is wholly or partially covered with grass, in others scooped out by the winds into crater-shaped hollows, or thrown up into sand-hills, not exceeding the height of 75 feet above high water. Between these ridges a long pond, named Salt-water Lake, said to be gradually filling with blown sand, but still in some parts 12 feet deep, extends from the west end to the distance of 11 miles; and a low valley continues from it $8\frac{1}{2}$ miles more to the north-east end of the island. The entrances to this pond have been for some time closed, the sea flowing in over the low sandy beach on the south side, and at the west end only in high tides and heavy gales.

The whole island is composed of white sand, much coarser than any of the soundings about it, and intermixed with small transparent stones. Its face is very broken, and hove up in little hills, knobs, and cliffs, wildly heaped together, within which are hollows, and ponds of fresh water, the skirts of which abound with cranberries the whole year, and with blueberries, juniper, &c., in their season; as also with ducks, snipes, and other birds. This sandy island affords great plenty of beach-grass, wild pers., and other herbage, for the support of the horses, cows, hogs, &c., which are running wild upon it. It produces no trees; but abundance of wreck and drift wood may be picked up along shore for fuel. Strong northerly winds shift the spits of sand, and often even choke up the entrance of the pond, which usually opens again by the next southern blast. In this pond were prodigious numbers of seals, and some flat fish, cois, &c.; and, on the south-west side, lies a bed of remarkably large mussels

and claims. The south shore is, between the cliffs, so low, that the sea breaks quite over in many places, when the wind blows on the island.

The establishment, formed in 1804, still consists of a superintendent and about ten assistants, who constantly reside on the island, and have in charge a competent supply of such articles as may be useful, with good boats, &c. They continually perambulate the island, and attend the several signal-posts and flag-staffs, intended to direct vessels, and the huts to shelter the sufferers. There never were any inhabitants on the island but those connected with the establishment.

The island is regularly visited by a vessel from Halifax, to convey supplies, and bring away those who may have been thrown upon its shores. The supply of stores and provisions is abundant, so that 300 persons, at once upon the island, have been liberally assisted and supplied with necessities.

This establishment was founded by the Provincial Legislature, at the recommendation of Sir John Wentworth, then Lieut.-Governor, and is maintained by an annual grant from the Nova Scotia Legislature, to which the Imperial Government adds an equal sum. This is increased by the sale of wrecked vessels and their cargoes, and the occasional sale of wild horses, of which there are about 400 on the island. It has proved the means of saving many lives. In every year vessels have been lost.

The *West Flagstaff*, which points out the position of the principal establishment, stands on a sand-hill 40 feet high, and with its Crow's-nest, or look-out, 100 feet above the sea, is a conspicuous object on the north side of the island, and was distant (in 1852) 4,215 fathoms from the west end of the grassy sand-hills. The establishment is situated on the north side of the island, between the pond and the sand-hills, and consists of a comfortable house for the superintendent and his family, buildings for the men and the occasional accommodation of shipwrecked persons, for storing provisions and property saved from wrecks, workshops, stabling, &c.

The *East Flagstaff*, 40 feet high, is also a conspicuous object, standing on a sand-hill on the north side of the island, and distant, at the same date, 2,280 fathoms from the north-east end of the grassy sand-hills.

The *Middle Flagstaff* was further inland, and was about to be removed to a more advantageous position on the south side of the island. Besides the buildings at these flagstaffs, there was an unoccupied house on the north side, distant $3\frac{1}{2}$ cables from the west end of the grassy sand-hills.

The *WEST BAR* is dry only three-quarters of a mile out from the end of the grassy sand-hills. There are several patches nearly dry about a mile further out, and then 9 miles of heavy breakers in bad weather, succeeded by 7 miles more, in which the depth increases from 5 to 10 fathoms, and where there is usually a great ripple and a heavy cross sea; the whole extent of the bar from the end of the grassy sand-hills, to the depth of 10 fathoms, being 17 miles.

The *EAST BAR* is dry in fine weather 4 miles out from the end of the grassy sand-hills. At the distance of $1\frac{1}{4}$ miles out a small sand-hill, about 10 feet high and with some grass on it, has accumulated around a wreck since 1820; the whole length of this bar, from the grassy sand-hills to the depth of 10 fathoms, being 14 miles. Its direction is N.E. by E. $\frac{1}{4}$ E. for the first 7 miles, beyond which it curves gradually, till it terminates in E.S.E.

Sable Island and its submerged bars form a crescent concave towards the north, and extend over more than 50 miles of sea. Vessels should be careful not to be caught within this crescent in a strong gale from the northward, when the accelerated ebb tide, setting directly towards and over the bars, would render her situation extremely dangerous. Both the bars are extremely steep on the north side, the East bar especially so, having 30 fathoms water close to it. To the southward, on the contrary, the water deepens gradually out for so many miles, as to render it difficult to account for the greater number of shipwrecks having occurred on that side of the island and its bars, excepting by a neglect of the lead.

"Easterly, southerly, and S.S.W. winds set a rapid current along shore, in shoal

water, to the W.N.W. and N.W.; that is, along the shore of the western end of the island, but not the eastern or middle, as there the current, with southerly and S.W. winds, sets to the eastward. The natural tendency of the flood-tide is towards the coast. When it strikes the island, it flows to the eastward over the north-east bank, and to the westward over the north-west bank, and passes the west end, in a north-west direction, so rapidly that it carries the sand with it; and the hills of the west end being high and narrow, they are undermined at their base by it, and tumble down some thousands of tons of sand at a time; this the current beneath catches and sweeps away to the N.W., increasing the bank. As soon as this current passes the extreme point of the dry bar, it tends more across the bank to the N.E.; the motion of the sea contributing to keep the sand in motion, the current carries it to the N.E. and spreads to the N.W. Although, across the bank from the island, to the distance of fifteen or twenty miles to the N.W., there is a flood and ebb tide, the flood setting to the N.N.E. the ebb to the S.S.W., the flood comes over a broad flat bottom, until it arrives at the highest ridge of the bar, bringing the sand with it so far. It then finds a deep water suddenly to the eastward of the bar, and its strength is as suddenly lost; the waters pitching over this bank, settle gently in deep water, and the sand going with the current does the same, and keeps the eastern edge of the bar and the bank very steep; but to the southward and westward it is flat and shallow.

The ebb-tide, setting gently to the southward and westward, meets the steep side of the bank, and rising above it, passes over and increases, in strength, merely leveling the sand that had been brought up by the last flood. It does not carry it back until the next flood comes, which brings up a fresh supply from the washing of this land; and so, alternately, the sand changes with every flood and ebb-tide. The consequence is, that although the west end is several miles to the eastward of where it was in 1811, yet the shoalest or eastern parts of the bar or bank have increased eastward, as fast as the island has decreased in the same direction. There is a passage across the bar inside, about four or five miles broad, with three or four fathoms of water.—*Mr. Darby*, Superintendent, 1837.

In approaching the anchorage off Sable Island from the northward at night, or in thick weather, the lead should be kept constantly going, and after passing the Middle Ground, distant about 25 miles to the northward of the island, great caution should be used, and the vessel should be certain of her position; for the east end of the island and the East Bar are very steep on that side.

The Middle Ground, and the ridge of sand reported to continue from it to the west and south, till it joins the West Bar, require to be surveyed, before more precise directions can be safely given.

Vessels seldom anchor off the south side of the island, because of the prevailing heavy swell from the southward; but they may safely approach by the lead on that side, taking care not to become becalmed in the heavy swell, and in the strong and uncertain tides and currents near the bars.

The landing is impracticable on the south side, excepting after a long continuance of northerly winds; and on the north side boats can land only in southerly winds and fine weather; but there are surf boats at the establishment, which can land when ordinary boats would swamp instantly.

A life-boat, that could sail as well as row, was very much wanting to complete the efficiency of the establishment, but this has been in some degree supplied.

Tides.—It is high water, full and change, on the north side of Sable Island at 7^h 30^m nearly, and on the south side about an hour earlier, and the rise at springs does not exceed 4 feet. The tidal streams are much influenced by the winds. The ebb sets to the southward on and over the bars, often at the rate of 1½ or 2 knots; the flood at a much less rate in the contrary direction.

THE NOVA SCOTIA BANKS.—The form and extent of the Nova Scotian Banks can be best understood by reference to the late charts. They are but imperfectly surveyed, and till lately the *Banquereau* and *Mizen Banks* were omitted in the Admiralty charts. They have, however, been examined by the French in 1856. The

result of these surveys is now shown on our Chart. It will be seen that there is a channel nearly 60 miles wide of unknown but great depth, between the Banquereau, the Mizen, and Artimon Banks to west, and the Bank of St. Pierre to the eastward, leading directly towards the entrance of the Gulf.

The banks are generally of hard ground, separated by intervals, the bottom of which is of mud. Between these banks and the shore are several small inner banks, with deep water and muddy bottom. The water deepens regularly from Sable Island to the distance of 22 leagues, in 50 fathoms, fine gravel; thence proceeding westward, the gravel becomes coarser: continuing westward to the western extremity of the banks, the soundings are rocky, and shoalen to 18 and 15 fathoms of water: Cape Sable bearing N. by W. distant 15 leagues.

It may be observed, generally, that the soundings all along the Nova Scotian coast, between Cape Canso to the E.N.E., and Cape Sable to the W.S.W., are very irregular, from 25 to 40 and 50 fathoms. In foggy weather, do not stand nearer in-shore than 35 fathoms, lest you fall upon some of the ledges. By no means make too bold with the shore in such weather, unless you are sure of the part of the coast you are on; for you may otherwise, when bound for Halifax, fall unexpectedly into Margaret's or Mahone Bay, and thus be caught with a S.E. wind.

III.—HALIFAX HARBOUR, AND THE COAST THENCE, WESTWARD, TO CAPE SABLE.

Description of the Coast, etc.—The land about the Harbour of Halifax, and a little to the southward of it is, in appearance, rugged and rocky, and has on it, in several places, scrubby withered wood. Although it seems bold, yet it is not high, being to be seen, from the quarter-deck of a 74-gun ship, at the distance of no more than 7 leagues; excepting, however, the high lands of *Le Have* and *Aspotogon*, westward of Halifax, which are to be seen 8 leagues off. The first, which is 12 leagues W.S.W. from Cape Sambro', appears over Cape Le Lave, and like little round hills of unequal height. Aspotogon, when bearing N.W. by N. appears directly over Margaret's Bay, $5\frac{1}{2}$ leagues westward from Cape Sambro'; it is rather a long high land, nearly level at the top, and rising above the land near it. When bearing north, distant between 5 and 6 leagues, Sambro' lighthouse will bear E.N.E. distant 7 leagues.

HALIFAX HARBOUR.—The harbour of Halifax is one of the finest in British America. A thousand vessels may ride in it in safety. It is easy of approach, and accessible at all seasons. Its direction is nearly north and south, and its length twelve miles. Its upper part, called BEDFORD BASIN, formed as shown in the chart, is a beautiful sheet of water, containing about eight square miles of good anchorage.

HALIFAX, the third town of British America, is situate at the distance of eight miles above Chebucto Head, on the western side of the harbour, and upon the declivity of a hill (*Citadel Hill*), which rises 227 feet above the level of the sea, and has on its summit a flagstaff, serving as an excellent mark for the harbour. In its present state, Halifax has not less than 25,000 inhabitants. The naval yard is above the town; the commissioner's house and other buildings are its ornaments. As a government establishment, it is, of course, in excellent order. To the northward of it is a naval hospital, with its requisite appendages. On the hill above the hospital, is a square stone building, the residence of the naval commander-in-chief. The Citadel Hill, over the town, commands a prospect of the harbour and surrounding country. The village of Dartmouth is opposite to Halifax.

Lights.—Two lighthouses stand on the eastern side of the entrance of Halifax Harbour, one on the south-west point of Devil Island, at the eastern point of the entrance, and the other, named Sherbrook Tower, on the west extremity of Maughar Beach, at $4\frac{1}{2}$ miles within the entrance.

The lighthouse on **DEVIL ISLAND** is octagonal, built of wood, and painted brown with a white belt. It exhibits at 45 feet above high water a *fixed red light*, visible in clear weather from a distance of about 8 miles.

SHERBROOK TOWER, on the west end of Maugher Beach, is 48 feet high, circular, and painted white with red roof. It exhibits at an elevation of 58 feet above high water a *fixed white light*, visible in clear weather at 12 miles. It bears from the Thrumcap buoy N. by W. $2\frac{1}{2}$ miles.

Pilots are stationed on Devil Island, and several families reside there.

Chebucto Head, the southern extreme of the western shore at the entrance of Halifax Harbour, bears N.E. $4\frac{1}{2}$ miles from Sambro Island lighthouse. It is 106 feet high, and consists of a whitish granite. Camperdown flagstaff, on a hill in rear of Portuguese Cave, 168 feet above the sea, will be seen $1\frac{1}{2}$ miles within Chebucto Head.

The Eastern Shore of the Harbour is less rocky and barren than the western. **Devil Island**, composed of clay slate, is 15 feet high, one-third of a mile in length, and lies the same distance from Hartland Point, the eastern point of entrance of the harbour. A reef connects it with the shore, and shallow water extends from it one-third of a mile to seaward.

EASTERN PASSAGE.—The entrances to the eastern passage lie on either side of **Lawler Island**; that to the eastward, between that island and the main, being the deepest, and having 10 feet over its bar at low water.

Macnab Island, which forms the eastern side of the ship channel into the harbour, is 3 miles long, including its shingle beaches.

Thrumcap Islet is connected to the south-west extremity of Macnab Island by long shingle beaches, inclosing a shallow pond. It is an islet at high water, and fast wasting by the action of the waves. The *Thrumcap Shoal* extends one mile to the southward from the islet, and forms one of the principal dangers in the entrance of the harbour. At its south-west extremity is a red buoy, with small staff and vane, lying in 8 fathoms water.

Lighthouse Bank extends three-quarters of a mile to the southward from Maugher Beach. Devil Island lighthouse open south of Macnab Island, seen over the shingle beaches, and bearing S.E. by E. $\frac{1}{2}$ E., clears its south point in 5 fathoms. From the least water (18 feet), the lighthouse on Maugher Beach is in one with Ives Point, and is distant half a mile.

Ives Knoll, awash at low spring tides, rises from the rocky bank which runs out 4 cables from the beach to the northward of the N.W. point of Macnab Island, or towards George Island. A red buoy, without staff or vane, is moored in 8 fathoms, near the western side of this bank, and distant one cable west from the knoll.

Rock Head Shoal, the outermost and most dangerous shoal at the entrance, with 20 feet least water on it. Devil Island Lighthouse lies N.E. $2\frac{1}{2}$ miles. A black and white beacon buoy, carrying a bell, is moored near the south-west end of this shoal in $6\frac{1}{2}$ fathoms water, rocky bottom.

Portuguese Shoal, 5 fathoms, lies W.S.W. half a mile from the Rock Head. A black buoy, in 6 fathoms, without staff or vane, on its western side marks the eastern side of the preferable channel for large ships.

Sambro' Lighthouse Island well open S.E. of White Head, bearing S.W. $\frac{1}{2}$ W., leads clear to the southward of the Rock Head and Portuguese Shoals. The tower on George Island touching the east side of the lighthouse tower on Maugher Beach, N. $\frac{1}{2}$ W., will lead through between them; and George Island well open to the west of the lighthouse tower on Maugher Beach, bearing N. $\frac{1}{2}$ W., will lead clear to the westward of them, and also nearly midway between the Neverfail and Thrumcap Shoals.

NEVERFAIL SHOAL.—From the 27 feet least water on this shoal, the eastern side of George Island appears in line with the steeple of a chapel at Dartmouth; and

Hartland Point over the northern point of Devil Island, and in line with the Thrum-cap buoy, which bears E. by N., distant about one mile.

Lichfield Rock, with 15 feet water on it, lies W. by N. $\frac{1}{2}$ N. two-thirds of a mile from the Neverfail. A *white* buoy, with staff and vane, lies on its eastern side.

Mars Rock, with 20 feet water on it, on a rocky bank separated from the shore by a very narrow channel. A *white* buoy with staff and vane is moored in 6 fathoms on its eastern side.

Middle Ground, carrying 28 feet water, bears W. $\frac{1}{2}$ N. half a mile from the northern point of Macnab Cove, and E.N.E. from the steeple of a chapel at Falkland village.

Pleasant Shoal, which extends nearly half a mile S.E. from Pleasant Point, dries in some parts, and is covered by only a few feet of water nearly out to its edge. It is much in the way of vessels, as it diminishes the breadth of the channel between it and Ives Point to half a mile. A *white* buoy, without staff and vane, is moored close to its eastern extremity in $7\frac{1}{2}$ fathoms.

The entrance of the *North-West Arm* is between the western side of Pleasant Shoal and the shoals in Purcell Cove. It carries a depth of 8 fathoms; and the largest ships may ascend it through a narrow channel to within half a mile of its head, or nearly to Melville Island, a distance of $2\frac{1}{2}$ miles.

Reed Rock lies 6 cables to the northward of the buoy on Pleasant Shoal, on the same side of the channel, and 2 cables off-shore. It is small, with 5 feet least water, and its position is pointed out by a *white* buoy, with staff and vane, moored in 8 fathoms, and bearing from Ives Knoll Buoy W. by N. half a mile.

Belleisle Spit lies two-thirds of a mile further in, and extends out a quarter of a mile from the shore to a *white* buoy, with staff and vane, in 5 fathoms, from which the south-east point of George Island bears E.N.E. one-third of a mile.

About a quarter of a mile further in, on the edge of the bank, in 5 fathoms, and distant three-quarters of a cable from the Engineer Wharf, is the *Leopard white* buoy, with staff and vane, which, together with the Belleisle buoy, marks the western side of the channel, between them and George Island, which is clear and deep, and $1\frac{1}{2}$ cables wide from the depth of 5 fathoms to 5 fathoms.

To the eastward of George Island the channel is half a mile wide, and equally free from obstructions; the shallow water does not extend beyond three-quarters of a cable from either end of George Island, and not above half a cable from either side.

After passing the Leopard buoy, the deep water approaches very near the wharves of the city, until arriving at the shoal which extends $1\frac{1}{2}$ cables out to the south-east from the dockyard wall. The Commissioners buoy, *white*, without staff and vane, is moored on the eastern edge of this shoal in 5 fathoms, and just within it the depth is only 9 feet at low water.

There is a clear passage for the largest ships through the Narrows into *Bedford Basin*, which has a depth of 36 fathoms, and is navigable quite to its head. The principal danger in the basin is the Wellesley Rock, which has 13 feet on it at low water, and lies about one-third over from the eastern towards the western shore.

Tides.—The mean of two years' observations, with a self-registering tide gauge at Halifax Dockyard, gives as follows, viz. :—It is high water, full and change (the true Establishment) at 7^h 39^m; ordinary springs rise 6 feet; equinoctial springs, 7 feet; neap tides range 3 feet, and rise to 4 feet above the level of low-water springs.

The rise is greatly influenced by the winds, southerly winds causing high, and northerly winds low tides.

Directions.—The bank off Sambro Island, terminating in a point, and at the depth of 30 fathoms, 5 miles south of the Sambro Ledges, offers considerable assistance to vessels approaching Halifax from the westward in the thick fogs which so frequently prevail. From the eastward the approach is rendered comparatively easy, by the absence of outlying dangers after passing Shut-in Island, and by the soundings deepening out with tolerable regularity to 30 fathoms, at distances varying from 4 to 6

miles from the shore, until within 2 miles of Chebucto and White Heads, where the depth exceeds 30 fathoms, until within one-third of a mile from the shore. Attention to these soundings, combined with the guns fired from Sambro Lighthouse Island, may enable steamers at times to enter the harbour notwithstanding the fog, but it is seldom prudent for a large sailing vessel to attempt it under such circumstances.

From the Westward at Night.—In approaching Halifax Harbour from the westward at night, shape a course to pass not less than 3 miles to the southward of the Sambro Island light, steering E.N.E., and in not less than 30 fathoms water, until the light bears North; when, if not more than 6 miles from it, the vessel will have arrived at the southern prolongation of the Sambro Bank. Having crossed the bank into deep water, haul up N.N.E., until the light on Maugher Beach opens out east of Chebucto Head, bearing N. by E., when steer for it, or so as to pass within a mile or less from Chebucto Head, which is quite bold. Having done so, keep the light bearing between North and N. by E. as the vessel runs towards it, and all the dangers will be avoided excepting the Neverfail Shoal, on which there is not less than 4½ fathoms.

Having arrived abreast the Thrumcap, or brought Devil Island light in line with its south extremity bearing E.S.E., alter course to N. by W., or as may be necessary, to avoid the Lighthouse Bank; and as soon as the light on Maugher Beach bears East, steer N. by E. for Ives Point (or N.N.E., if necessary, to avoid the Middle Ground, on which, however, there are not less than 4½ fathoms), until the light bears S. by E.; then a N. by W. course, keeping the light astern, will lead between the Pleasant Shoal and Reed Rock white buoys on the one side, and Ives Knoll red buoy on the other into the harbour. Having passed Ives Knoll, the vessel may proceed in on either side of George Island, or may anchor in the stream of Maenab Island until daylight, according to circumstances. The light on Maugher Beach disappearing behind Ives Point, will show the vessel's distance from George Island, as she runs in to the eastward of that island, which is the wider and preferable channel in a dark night.

Within George Island there is nothing in the way, excepting the Dockyard Shoal, and the shallow water off Dartmouth.

By Day.—Approaching from the westward in the daytime, pass Sambro Lighthouse Island at the distance of 3 or 4 miles, and when Sandwich Point opens out east of Chebucto Head, stand in N. by E. or N.N.E., according to the wind, until the citadel flag-staff opens east of Sandwich Point, bearing N. ½ W. Keep the citadel flag-staff only just open, running towards it, and it will lead between the Lichfield and Neverfail Shoals, and up to Mars Rock white buoy, which leave to the westward. Having passed Sandwich Point, from which the shallow water does not extend beyond a cable's length, steer towards George Island, keeping Chebucto Head only just in sight east of Sandwich Point until the vessel has passed close to the westward of the Middle Ground; then open out the head more, so as to leave the Pleasant Shoal and Reed Rock white buoys to the westward, in running towards George Island; or, if it be preferred, the steeple at Dartmouth in line with the eastern side of George Island, bearing North, will lead to the eastward of the Middle Ground. Either of the marks just given will lead clear up to George Island, on either side of which the vessel may pass into the harbour, leaving the Belleisle and Leopard buoys to the westward, if she passes between them and the island, and choosing her anchorage off the wharves of the city, or off the Dockyard, where the Commissioner's Buoy will point out the Dockyard Shoal.

From the Eastward by Night.—Approaching from the eastward by night, and begin to the westward of the Jedore Ledges, run along the land in a depth not less than 30 fathoms, until the *fixed white* light on Sambro Island is seen; then, if it be intended to pass to the southward of the Rock Head and Portuguese Shoal, steer for Chebucto Head (remembering that, to clear the Rock Head, the light on Sambro Island must be kept wide open to the south-east of White Head, bearing nothing to the southward of S.W. by W.; and the *fixed red* light on Devil Island nothing to the eastward of N.E. by N.), until the light on Maugher Beach bears North; when steer for it, keeping it bearing between North and N. by E., and proceeding as already directed.

By Day steer for Chebucto Head until the citadel flagstaff is only just open east of Sandwich Point, N. $\frac{1}{2}$ W.; then steer for it, and proceed as before.

Between the Rock Head and Thrumcap.—If a N.E. wind, or other circumstances, should render the passage preferable between the Rock Head and Thrumcap Shoals, proceed as follows:—

By Night.—Having made Sambro Island light as before, and passed Shut-in Island, steer so as to pass not less than half a mile, or more than one mile, to the southward of the red light on Devil Island, steering W. $\frac{1}{2}$ S. (made good), until the light on Maugher Beach bears North, when steer for it until abreast the Thrumcap, or until Devil Island bears E.S.E.; then alter course to N. by W., or as may be necessary, to avoid the Lighthouse Bank, and proceed as before directed.

By Night.—Pass the lighthouse on Devil Island, steering W. $\frac{1}{2}$ S. as before directed, or so as to keep Graham Head open south of Devil Island the whole breadth of the island, which mark will lead to the southward of the Thrumcap Shoal and red buoy; and when George Island opens out west of the lighthouse tower on Maugher Beach, bearing N. $\frac{1}{2}$ W., steer for it, until abreast the Thrumcap; then edge away to the westward, keeping the lighthouse on Devil Island in sight south of Maenab Island, and over the beaches between it and the Thrumcap (so as to clear the Lighthouse Bank) until the steeple of the chapel at Dartmouth comes in one with the side of George Island, bearing North. These last-named marks kept in one, will lead clear of all dangers into the harbour.—*Adm. Bayfield.*

ON PROCEEDING TOWARD HALIFAX, in H.M. sloop *Ranger*, in the month of May, 1831, *Mr. Dunsterville* writes thus:—

"In approaching the land of Nova Scotia, do not come into less than 50 fathoms, for though there may be a dense fog in the offing, yet near and over the land it is frequently clear; therefore, by sounding frequently, you may, even in a fog, approach the coast; and if you suppose yourself near Sambro' lighthouse, by firing a gun it will be answered, and a pilot will very soon offer. The lighthouse is remarkable, and may be seen, from seaward, at 3 or 4 leagues off. The land about Halifax is of moderate height, and may be seen at about 6 leagues. Citadel Hill, over the town, may probably be seen much further: this is where the signal is made for all vessels in the offing. The light on Maugher's Beach kept between N. by E. and north, will lead you clear to the westward of Thrum Cap, which is a most dangerous shoal. Chebucto Head, which is barren and bold, bearing N.W., clears all the dangers lying to the S.W.

"It is worthy of observation, that, in approaching the land near Halifax, in thick weather, when it just perceptible, the colour of the cliffs eastward of the harbour is red, and to the westward white."

SAMBRO' ISLAND LIGHT.—The lighthouse on Sambro' Island is a white octagonal tower 60 feet high. It stands near the middle of Sambro' Island, at $1\frac{1}{2}$ miles from the shore at Cape Sambro', and S.W. $4\frac{1}{2}$ miles from Chebucto Head, the western point of entrance to Halifax Harbour, and exhibits, at an elevation of 115 feet above high water, a *fixed white* light, visible in clear weather from a distance of 21 miles. Vessels approaching the light in a fog, and firing a gun, will be answered from the island, where a heavy gun, and a party of artillery, are stationed for the purpose. It is the resort of pilots.

Sambro' Ledges.—These ledges being now correctly laid down in the Chart, it will only be necessary here to state that from the outermost of the western ledges, the *Smithson Rock*, with 2 fathoms water on it, Sambro' light bears N.E. by E. $\frac{1}{2}$ E., $2\frac{1}{2}$ miles; and *Pennant Point*, N.W. by N., $2\frac{1}{2}$ miles; N.N.E. $\frac{1}{2}$ E. The *S.W. Breaker*, which almost always shows, lies $1\frac{1}{2}$ miles to the eastward of *Smithson Rock*, with Chebucto Head seen over the eastern extremity of Sambro' Island, which bears from it N.E. $\frac{1}{2}$ N., $1\frac{1}{2}$ miles. The *Sisters* are the outermost of the eastern of the Sambro' Ledges, and are distant $1\frac{1}{2}$ miles from the lighthouse on Sambro' Island, between the bearings from it of E. by N. and E. by S.

The *fixed white* light exhibited from *Sherbrook* tower on Maugher Beach, kept just open east of Chebucto Head, bearing N. by E., will clear all the Sambro' Ledges, and

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Sambro' Ledges, and

also the Bell Rock and Dorman Reef; and Sandwich Point in line with Chebucto Head, bearing N. $\frac{1}{2}$ E., will lead one mile to the eastward of them.

Sambro' Harbour.—The Harbour of Sambro' lies at one mile and three-quarters to the N.N.W. of the Lighthouse Island. Off its entrance is the Bull Rock, and there are two other rocks between the latter and Sambro' Island. The best channel into it is, therefore, between Pennant Point and the Bull Rock; but vessels from the eastward may run up between Sambro' Island and the Inner Rock. Within the entrance is an islet, called the Isle of Man (or Thrum Cap), which is to be left, when sailing inward, on the left, or port hand. The anchorage is above this islet, in 3 fathoms, muddy bottom. Admiral Bayfield adds, that the dangers off and in it are so numerous that it should never be attempted in a large ship except in extreme necessity.

(The Directions which follow have not been corrected by the Description, &c., of Adm. Bayfield, yet unpublished, and therefore must be used with caution.)

PENNANT HARBOUR, (*Port d'Anse des Barres*), the next to the westward of Sambro', has good anchoring ground. The islands on the west side of it are bold-to, and the ground is likewise good. The depths are from 10 to 5 fathoms, but a dangerous middle ground was omitted in the former survey.

TENANT BAY, (or *Bristol Bay*), between Pennant Harbour and Tenant Basin, presents to the eye of the stranger the rudest features of nature. It is obstructed by several rocks and islets, but, once gained, it is extensive and safe; and in bad weather, (the only time vessels of consequence should enter it,) the dangers show themselves. The tide flows here on the full and change days, at $7\frac{1}{2}$ h, and rises about 8 feet.

Prospect Harbour.—This harbour is about three miles westward of Tenant Bay, and is separated therefrom by a large cluster of islets and broken land, the outer extremity of which is named *Mars' Head*. On advancing, the appearance is rugged; but the harbour is extensive and safe; and, in rough weather, the dangers in the vicinity show themselves. Two small islands on that side form a little cove.

The eastern channel is between Prospect and Betsey's Islands; and, to avoid all danger, you ought to keep more than half a mile from the land, and in 20 and 21 fathoms water, off Cape Prospect, as there is a 17-foot rock about one-third of a mile south of the Cape, and within which there is no good channel.

The western entrance is between an islet, called *Hobson's Nose*, on the S.E., and a rock, called *Dorman Rock*, on the N.W. There is a breaker, with 3 fathoms over it, at the distance of two cables' length to the east of the latter. Within the harbour there is a good anchorage for the largest ships; and, for smaller vessels, in 4 fathoms.

SHAG HARBOUR, (*Leith Harbour of Des Barres*), is the next westward of Prospect Harbour; it is the N.E. arm of an inlet, of which the N.W. arm is *Blind Bay*, in both of which excellent anchorage may be found. In the common entrance without, lies, without the *Hog*, a sunken rock, having only 6 feet water over it. This rock bears S.E. $\frac{1}{2}$ E. nearly a mile and a half from Taylor's Island. In rough weather, with the wind on-shore, the sea breaks over it; and, in fair weather, it may be perceived by the rippling of the tide. There is a good channel on either side. That on the west side is the most difficult, there being a ledge extending half a mile toward it, from the eastern extremity of Taylor's Island.

DOVER PORT lies on the western side of the entrance to Blind Bay. It is formed by Taylor's Island, and several other islands. The best passage is to the eastward of these, giving them a moderate berth. The anchorage is within the body of Taylor's Island, in 10, 9, or 7 fathoms; bottom of mud. In sailing in, give a berth to the reef, which extends S.E. half a mile from Taylor's Island.

MARGARET'S BAY.—This bay is a beautiful sheet of water, about 25 miles in circumference, in length nine, and two miles wide at the entrance. On every side are harbours capable of receiving ships of the line, even against the sides of the shores. To the west of the entrance stands the High Land of Aspotogon, already noticed, the summit of which, bearing N.W., leads directly to the mouth of the Bay. The shores

at the entrance are high white rocks, and steep-to. On the western side is a narrow islet, called *Southwest* or *Holderness Isle*. This islet is a body of rock, about 50 feet in height, and bold-to on all sides.

On the Eastern side of the Entrance, at 300 yards from *East Point*, is a rock uncovered at low water; and there is, at a mile and a half south from *Southwest Island*, a ledge called the *Horse-shoe*, almost covered and surrounded with breakers, and which bears from the south point of *Taylor's Island*, W. by N. $\frac{1}{2}$ miles; the depths around it are 6 and 8 fathoms.

On the Eastern side of the Bay, at $2\frac{1}{2}$ miles to the northward of *East* or *May Point*, is an irregular projection called *Peggy's Point*. At a mile beyond this is an isle named *Shut-in Island*, which is 208 feet high, covered with wood, and bold-to; but there are two ledges between it and the inner part of *Peggy's Point*, over which the depths are 8 and 9 feet. In a southerly gale the water is smooth on the lee side of the island, and the bottom ground. At a mile and a half N.E. $\frac{1}{2}$ N. from *Shut-in Island* is a smaller isle, named *Luke's*, forming a complete break to the sea, and used as a sheepfold. There is good anchorage on the N.E. side of it, smooth in all seasons; and this is, therefore, a useful place of shelter.

Within two miles northward of *Luke's Isle* is a cluster of islets, called *Jollimore's Isles*. A reef extends north-eastward from the latter, and the land within forms the harbour called *Hertford Basin*, wherein the depths are from 7 to 10 fathoms, and the anchorage is safe under the lee of *Jollimore's Isles*.

Head Harbour, (or *Delaware River*,) in the N.E. corner of the Bay, is an anchorage of the first class, and so perfect a place of safety that a fleet may be moored in it, side by side, and be unaffected even by a hurricane. The lands are high and broken. The islands, at the entrance, are used as sheepfolds.

HUBBERT'S COVE, (*Eitroy's River*,) in the N.W. corner of the bay, may be entered by a stranger, by keeping the western shore on board; and a ship dismasted or in distress may here find perfect shelter. If without anchors, she may safely run aground, and will be assisted by the settlers.

At the entrance of the cove, toward the eastern side, is a ridge of rocks called *Hubbert's Ledge* (*Black Ledge*); this is about 100 fathoms in extent, and covered at high water. It may be passed on either side, keeping the land on board, the shores being bold.

LONG COVE, (*Egremont Cove*,) 2 miles to the southward of *Hubbert's Cove*, on the western side of the bay, is a good anchorage with a westerly wind. Hence, southward, the coast is bold and rugged; but there is no danger, excepting one small rock of six feet of water, close in-shore.

At 5 miles S. $\frac{1}{2}$ W. from the point of land which separates *Margaret's* and *Mahone Bays*, lies *GREEN ISLAND*. It is small, and lies 7 leagues W.N.W. $\frac{1}{2}$ W. from abreast of *Sambro' lighthouse*.

MAHONE BAY is divided from *Margaret's Bay* by the peninsula, on which stand the high lands of *Aspotogon*, whose appearance in three regular swellings, is very remarkable, at a great distance in the offing, being visible at more than twenty miles off. This bay is nearly 4 leagues in extent, from N.E. to S.W., and contains numerous islands and rocks, the largest of which, *Great* and *Little Tancook*, are on the eastern side.

Without the entrance, is *Green Island*, above mentioned; another small isle, called *Duck Isle*, on the opposite side; and a larger, more to the west, named *Cross Island*, on which stands the red lighthouse with two lights mentioned below. Between the two latter islands is a channel, one mile in breadth.

The *Outer Ledge*, which always breaks, lies at one mile and two-thirds N.E. $\frac{1}{2}$ N. from the east end of *Duck Island*, and W. $\frac{1}{2}$ N. 3 miles from the west point of *Green Island*. Another danger, the *Bull Rock*, lies at a mile to the southward of *Great Tancook*, and bears from *Green Island* N.W. $\frac{1}{2}$ W. $\frac{1}{2}$ miles; from the east end of *Duck Island* N. $\frac{1}{2}$ E. 4 miles: this rock is visible at one-third ebb, and from it the

S.W. end of Flat Island bears E. by N. 1,200 fathoms distant, and the west point of Tancook Island N. by W. a mile and three-quarters distant.

Further up, N.W. by W., 400 fathoms distant, from the west point of Tancook Island, lies *Rocky Shoal*; within which and Tancook Island is deep water. The *Coachman* is a blind ledge, a mile and a quarter north of Great Tancook, and visible at low water only.

At the head of Mahone Bay is the town of CHESTER, which was settled in 1705, and is surrounded by a country of fine appearance, and abounding in wood. On approaching the bay from the eastward, the first land seen will be Green Island, which is round, bold, and moderately high. Hence, to Iron-bound and Flat Islands, the distance is about 8 miles; passing these, which are bold-to, you proceed to and between the Tancook Islands, which are inhabited: the passage is good, and there is anchorage, under the isles, in from 12 to 7 fathoms.

On proceeding towards Chester, the only danger is the ledge called the *Coachman*, above mentioned. You will just clear the eastern side of the ledge, by keeping the last ends of Great Tancook and Flat Island in one; and the western side by keeping the west end of Iron-bound Island open with the west point of Little Tancook. The islands off the town render the harbour smooth and secure, the depth in which is from 5 to 2 fathoms.

Chester church open, on the west of Great Tancook, leads clear to the westward of the Bull Rock, and down to Duck Island.

In Margaret's and Mahone Bays it is high water on the full and change at 8^h, and the vertical rise is from 7 to 8 feet.

MALAGUASH, or Lunenburg Harbour.—This is a place of considerable trade. Vessels are constantly plying between Lunenburg and Halifax, carrying to the latter cord-wood, lumber, hay, cattle, stock, and all kinds of vegetables. The harbour is easy of access, with anchorage to its head.

Light.—On Cross Island is an octagonal tower with a black lantern, which shows two lights; the upper revolving showing a flash of 15 seconds every minute at 90 feet, visible 14 miles off. The lower light is fixed, 33 feet vertically below the revolving light, and visible 8 miles off.

To sail in, you may pass on either side of *Cross Island*, which is low and thickly wooded, and on which stands the lighthouse; the channel on the west side of the island is the best. In sailing through the northern channel, be careful to avoid the shoals which extend from the north side of the island, and from Colesworth Point on the opposite side. In sailing in, through the channel to the westward of the island, steer midway between it and *Point Rose*; and, before you approach the next point, which is *Ovens' Point*, give it a berth of two or three cables' length; for, around Ovens' Point is a shoal, to which you must not approach nearer than in 7 fathoms. From Ovens' Point N.E. three quarters of a mile distant, lies the *Sculpin* or *Cat Rock*, dry at low water. Your leading-mark, between Ovens' Point and the Cat Rock is, a waggon road-way, (above the town of Lunenburg,) open to the westward of Battery Point, which mark will keep you clear of a rock of 4 fathoms at low water. The best anchoring ground is on the west shore, opposite the middle farm-house, in 7 fathoms, muddy bottom. Your course in, is from N.N.W. to N.W. by N. In this bay, with good ground-tackling, you may ride out a S.E. gale very safely. The harbour, which is to the northward of the Long Rock and Battery Point, is fit only for small ships of war and merchant-vessels. Along the wharfs are 12 and 13 feet of water, and, at a short distance, from 20 to 24 feet, soft mud.

From Green Island the east end of Cross Island bears W.S.W. distant 6 miles. From the east end of Cross Island that of the lighthouse on Iron-bound Island lies S.W. $\frac{1}{2}$ W. 6 $\frac{1}{2}$ miles; and from the latter Cape le Have bears S.W. by W. $\frac{1}{2}$ W., 4 $\frac{1}{2}$ miles.

Ironbound Island Lighthouse is a white tower on the south side of the island, showing a revolving light every half minute at 70 feet, and consequently visible at 13 miles off. Ironbound Island is about a mile long, narrow, and steep-to; it lies

S.E. $\frac{1}{2}$ S., $1\frac{1}{2}$ miles from the extremity of the peninsula which divides Margaret's and Mahone Bays called *New Harbour Point*, between which is a good channel.

CAPE LE HAVE, an abrupt cliff, 107 feet high, is bold at the top, with a red bank under it, facing the south-westward. It stands at the distance of 12 $\frac{1}{2}$ leagues W. $\frac{1}{2}$ S. from Sambro' Lighthouse. At one mile S.E. $\frac{1}{2}$ S. from this Cape lies the *Black or Le Have Rock*, 10 feet high, and 100 long, with deep water around it, 10 to 14 fathoms; and, at $2\frac{1}{2}$ miles W.S.W. $\frac{1}{2}$ W. from the Cape, is an elevated rocky islet, called *Indian Isle*, which lies at a mile from shore, off the S.E. point of *Palmerston Bay*, or *Broad Cove*; this point is $2\frac{1}{2}$ miles westward of Cape le Have.

Palmerston Bay, is two miles in breadth. At the head of it, to the N.W., is *Pott's River*. From Cape le Have, westward, to Medway Head, an extent of 11 miles, nearly W.S.W., the land is altogether broken and craggy.

Port Metway, or MEDWAY.—The entrance may be known by a hill on Metway Head, and a long range of low rugged islands extending true south, forming its eastern side: it is seven-eighths of a mile broad, and has a depth of 10 to 4 fathoms.

The *Lighthouse* on Metway, or Medway Head, the west side of the entrance, is white with a black square, and shows a bright fixed light at 44 feet, visible 10 miles off.

The land to the eastward of the harbour is remarkably broken and hilly. The *South-west Ledge*, or outer breaker, on the starboard side, without the entrance lies S.E. $\frac{1}{2}$ S. about a mile and a half from Medway Head. The *Stone Horse*, a rock dry at low water, lies E. by S. one-third of a mile from the S.W. breaker.

When approaching from the eastward, you will avoid the S.W. Ledge, on which the sea breaks in rough weather, by keeping the lighthouse on Coffin Island open of the land to the eastward of it. The course up the harbour is N. $\frac{1}{2}$ E. and W.N.W.

LIVERPOOL BAY.—*Western Head*, on the S.W. of the entrance of LIVERPOOL BAY, is represented in latitude $43^{\circ} 59'$, and longitude $64^{\circ} 40\frac{1}{2}'$. The entrance bears W. by S. eighteen leagues from Sambro' Lighthouse, and W.S.W. $16\frac{1}{2}$ miles from Cape le Have.

This bay has room sufficient for turning to windward, and affords good anchorage for large ships with an off-shore wind. The deepest water is on the western shore. *Western Head*, or *Bald Point*, at the entrance, is bold-to, and is remarkable, having no trees on it. *Herring Cove*, on the north side of the bay, affords good shelter from sea winds, in 3 fathoms, muddy bottom, but it is much exposed to a heavy swell, and has not room for more than two sloops of war. At high water, vessels of two and three hundred tons may run up over the bar into the harbour; but at low water there are only 10 feet over it. The channel, within, winds with the southern shore, and the settlements of Liverpool upward.

Coffin's Island and Light.—The island lies on the North side of the entrance. The lighthouse is octagonal, striped red and white horizontally, and exhibits a light revolving once in every two minutes, at 180 feet. The land in the vicinity of the harbour is generally rocky and barren. The channel North of this island is shallow. A shoal extends off the lighthouse.

On entering the bay, pass between Coffin's Island and Moose Head, bringing the lighthouse to bear E. by N., when $1\frac{1}{2}$ miles off, steer west, which will bring you up to Herring or Schooner's Cove, in the N.E. part of the bay, and in which is good shelter in 3 fathoms, mud; but is much exposed to the heavy south-easterly swells. Proceeding further, you may pass over the bar which stretches from Fort Point to the opposite shore, at high water only, for at low water there is not more than 9 or 10 feet water on it.

On *Fort Point* is a white tower, showing a *bright fixed light*. When inside the bar you proceed south-westerly toward the anchorage, in not less than 2 fathoms, off the town of Liverpool.

In Port Medway, and Liverpool Bay, it is high water, on the full and change, at fifty minutes past seven, and the vertical rise is from 5 to 8 feet.

Port Mouton, or MATOON (*Gambier Harbour of Des Barres*), is formed by an island of the same name, which lies at the entrance, and therefore forms two channels. Of the latter, that on the western side of the island is so impeded by islets and shoals, as to leave a small passage only for small vessels, and that close to the main. At a mile from the island, on the east, is a ridge called the *Brasil Rocks*; and from the N.W. end of the island a shoal extends to the distance of more than a mile. Within Matoon Island, on the W.N.W., are two islands called the *Spectacles*, or *Saddle*. M. des Barres says, "On both sides of the Portsmouth [*Brasil*] Rocks, which are always above water, you have deep channels, and of a sufficient width for ships to turn into the harbour." With a leading wind you may steer up W.N.W. $\frac{1}{4}$ W., until you bring the Saddle to bear S.W. $\frac{1}{4}$ W., and haul up S.W. by W. to the anchoring ground, where there will be found from 20 to 12 fathoms, muddy bottom, in security from all winds.

At five miles S.S.W. $\frac{1}{4}$ W. from the south end of Mouton Island lies an islet, surrounded by a shoal, and named **LITTLE HOPE ISLAND**. It is only 21 feet high, and 200 fathoms in length, at $2\frac{1}{2}$ miles from the shore. This is dangerous, and between the island and the point there is said to be a dangerous shoal.

Port Jolie.—The next harbour, west of Little Hope Isle, is Port Jolie (*Stormont River of Des Barres, and Little Port Jolly of others*), which extends five miles inland, but is altogether very shoal, and has scarcely sufficient water for large boats. The lands here are stony and barren. Between this harbour and Hope Isle are several ledges, which show themselves, and there is a shoal spot nearly midway between the isle and the main.

Port Ebert, or GREAT PORT JOLIE (*Port Mansfield of Des Barres*), may be distinguished by the steep head on the west. Its eastern point, *Point Ebert*, lies in latitude $43^{\circ} 51'$, and longitude $64^{\circ} 54'$. At half a league to the S.W., without the entrance, is an islet, called *Green Island*, which is remarkable, and destitute of wood. The only anchorage here for large vessels is in the mouth of the harbour. Above are flats, with narrow winding channels through the mud.

SABLE RIVER (*Penton River of Des Barres*) is impeded by a bar which admits no vessels larger than small fishers. The country is sterile. A reef lies opposite to the middle of the entrance.

Rugged Island Harbour (*Port Mills of Des Barres*) takes its name from its rugged appearance, and the numerous sunken rocks and ledges about it. This place is seldom resorted to unless by the fishermen, although, within, the anchorage is good, in $4\frac{1}{2}$ and 4 fathoms. In a gale of wind, the uneven rocky ground at the entrance causes the sea to break from side to side. At a mile from the western head is a bed of rocks, named the *Gull*, over which the sea always breaks.

The **Lighthouse** on the Gull Rock is a white tower, showing a bright fixed light at 50 feet above the sea.

Thomas', or Rugged Island, to the east of the harbour, in addition to the lighthouse, affords a good mark for it; this island having high rocky cliffs on its eastern side. From its southern point sunken rocks extend to the S.W. nearly a mile, and within these is the *Tiger*, a rock of only 4 feet, lying south, half a mile from Rug Point, the eastern point of the harbour. Having cleared these on the outside, haul up N.N.W. for the islands on the left or western side, and so as to avoid a shoal which stretches half-way over from the opposite side. Pursuing this direction you may proceed to the anchorage in the north arm of the harbour.

SHELBURNE HARBOUR, or Port Roseway.—Cape Roseway, the S.E. point of Rosenath, or Macnutt's Island, is a high cliff of white rocks, the top of which is partly without wood. The west side of the island is low.

Lighthouse.—On the Cape stands the noble lighthouse of Shelburne, which has a remarkable appearance in the day, being painted black and white in vertical stripes, and at night exhibits a small light below the upper one, by which it is distinguished

at night from the light of Sambre', or Halifax. The upper light is 100 feet above the level of the sea, and the smaller light is 38 feet below the lantern.

The latitude of this lighthouse is $43^{\circ} 37' 30''$; longitude, $65^{\circ} 16' 35''$.

The directions for this harbour, which is said to be the best in Nova Scotia, as given by Mr. Backhouse, are as follows:—

When coming in from the ocean, after you have made the lighthouse, bring it to bear N.W., or N.W. by N., and steer directly for it. The dangers that lie on the east side, going in, are the Rugged Island Rocks, a long ledge that stretches out from the shore 6 or 7 miles, the *Bell Rock*, and the *Straptub Rock*. On the west side is the *Jig Rock*. The *Bell Rock* is always visible and bold-to.

When you have gotten abreast of the lighthouse, steer up in mid-channel. Rose-neath Island is pretty bold-to, all the way from the lighthouse to the N.W. end of the island. When you come up half-way between George's Point and Sandy Point, be careful of a sunken rock that runs off from that bight, on which are only 3 fathoms at low water; keep the west shore on board to avoid it: your depth of water will be from 4, 5, to 6 fathoms.

SANDY POINT is pretty steep-to; run above this point about half a mile, and come to anchor in 6 fathoms, muddy bottom; if you choose, you may sail up to the upper part of the harbour, and come to anchor in 5 fathoms, muddy bottom, about one mile and a half from the town, below the harbour flat. This harbour would contain all her Majesty's ships of the third-rate.

In sailing in from the eastward, be careful to avoid the Rugged Island Rocks, which are under water; do not haul up for the harbour till the lighthouse bears from you W. by N. $\frac{1}{2}$ N.; by that means you will avoid every danger, and may proceed as taught above.

In sailing into Shelburne from the westward, do not haul for the lighthouse till it bears from you N.W. by W. $\frac{1}{2}$ W.: you will thus avoid the *Jig Rock*, on the west, which lies within one mile and a quarter S. $\frac{1}{2}$ W. from the lighthouse, and is pretty steep-to.

Should the wind take you a-head, and constrain you to ply to the windward up the harbour, do not make too bold with the eastern shore; for half-way between George's Point and Sandy Point, is a reef of sunken rocks. When you come abreast of them, you need not stand above half-channel over to avoid them: the *Hussar* frigate, in plying to windward down the harbour, had nearly touched on them. On the west shore, abreast of Sandy Point, it is flat; therefore do not make too bold in standing over.

The ledge of rocks that his Majesty's ship *Adamant* struck upon, which lies abreast of Duffey's House, is to be carefully avoided: do not stand any further over to the westward than $4\frac{1}{2}$ fathoms, lest you come bounce upon the rock, as the *Adamant* did, and lay a whole tide before she floated, and that not without lightening the ship. The east shore has regular soundings, from Sandy Point upward, from 3 to 4, and 5 to 6 fathoms, to the upper part of the harbour, where you may ride safely in 5 fathoms, good holding ground. Your course up from the lighthouse in a fairway, is from N.W. to N.W. by N.; and when you round Sandy Point, the course is thence N. by W. and North, as you have the wind. The entrance of Shelburne Harbour affords a refuge to ships with the wind off-shore (which the entrance of Halifax does not) and there is anchoring ground at the mouth of the harbour, when it blows too strong to ply to windward.

In sailing from the westward for Shelburne at night, you must not haul up for the harbour until the light bears N. by E. $\frac{1}{2}$ E., in order to avoid the *Jig Rock*; and, when sailing in from the eastward, you must not haul up for the harbour till the light bears W. by N. $\frac{1}{2}$ N., in order to avoid the ledges that lie off the Rugged Islands, and bear from the lighthouse E. $\frac{1}{2}$ S. eight miles distant. You may stop a tide in the entrance of the harbour, in from 16 to 10 fathoms, and, and some parts clay, bottom.

Shelburne is a safe harbour against any wind, except a violent storm from the

S.S.W. At the town, the wind from S. by E. does no harm; although from S. by W. to S.W. by S., if blowing hard for any considerable time, it is apt to set the small vessels adrift at the wharfs; but in the stream, with good cables and anchors, no winds can injure.

It has been observed, in "The American Coast Pilot," that "Shelburne affords an excellent shelter to vessels in distress, of any kind, as a small supply of cordage and duck can at almost any time be had. Carpenters can be procured for repairing; pump, block, and sail makers also. It affords plenty of spars, and generally of provisions. Water is easily obtained, and of excellent quality."

CAPE NEGRO HARBOUR (*Port Amherst* of Des Barres) takes its name from Cape Negro, on the island which lies before it, in latitude $43^{\circ} 30\frac{1}{2}'$, and longitude $65^{\circ} 20\frac{1}{2}'$. The island is very low about the middle, and appears like two islands. The Cape itself is remarkably high, dark, rocky, and barren, and bears S.W. $\frac{1}{2}$ S. $7\frac{1}{2}$ miles from Cape Roseway, or Shelburne Lighthouse. The best channel in is on the eastern side of the island; but even this is to be impeded by two ledges, called the *Gray Rocks* and *Budget*; the latter a blind rock, of only six feet, at a quarter of a mile from the island, on both sides of which there is deep water. The *Gray Rocks* lie at a quarter of a mile to the north-eastward of the *Budget*, and serve as a mark for the harbour.

In the passage on the eastern side of the *Budget*, the depths are from 14 to 10 fathoms. With Shelburne Light shut in, you will be within the rocks. There is excellent anchorage on the N.E. of Negro Island, in from 6 to 4 fathoms, bottom of stiff mud. The northern part of the island presents a low shingly beach, and from this a bar extends over to the eastern side of the harbour, on a part of which are only 15 feet of water. The river above is navigable to the distance of six miles, having from 5 to 3 fathoms, bottom of clay.

The passage on the western side of Negro Island is very intricate, having numerous rocks, &c.; yet, as these may be seen, it may be attempted under cautious decision, by a stranger, in case of distress.

Port Latour (*Haldimand* of Des Barres) is separated from Negro Harbour by a narrow peninsula. The extreme points of the entrance are Jeffery Point on the east, and Baccaro Point on the west. Between, and within these, are several clusters of rock, which render the harbour fit for small craft only.

Baccaro Point Light, is at the entrance of this port on the west side. The tower is white with a black ball, and shows a revolving light every forty seconds, at 50 feet.

The *Vulture*, a dangerous breaker, lies S.W. by W., half a league from the lighthouse. The *Buntam Rock*, also half a league S. by W. $\frac{1}{4}$ W. from the light, has only 4 feet over it at low water.

Barrington Bay.—With the exception of the rocks off Point Baccaro, the Bay of Barrington is clear; but there are extensive flats toward the head of it, and the channel upward narrows so much, that it requires a leading wind to wind through it to the anchoring-ground, where the depths are from 26 to 18 feet. The town of BARRINGTON is seated at the head of the harbour. The lands are stony, but afford excellent pasturage, and cattle are consequently abundant here. During a S.W. gale, there is good shelter on the N.E. side of Sable Island, in 5 and 4 fathoms, sandy bottom.

The **WESTERN PASSAGE**, or that on the N.W. side of Sable Island, is intricate, and therefore used by small vessels only; it is not safe without a commanding breeze, as the tide sets immediately upon the rocks which lie scattered within it, and the ebb is forced through to the eastward, by the bay-tide on the west, at the rate of from 3 to 6 knots. This passage is, however, much used by the coasters.

CAPE SABLE.—**CAPE SABLE ISLAND**, on the West side of Barrington Bay is under tillage. **CAPE SABLE** is the cliff of a sandy islet, distinct from the former; it is white, broken, evidently diminishing, and may be seen at the distance of 5 leagues.

There are a few scattered houses or huts on it. From this islet ledges extend outward, both to the east and west; the eastern ledge, called the *Horse-shoe*, extends $2\frac{1}{2}$ miles S.E. by S.: the western, or *Cape Ledge*, extends three miles to the S.W. The tide, both ebb and flow, sets directly across these ledges, the flood westward. The ebb, setting with rapidity to the N.E., causes a strong break to a considerable distance from shore. The position of the southern point of Cape Sable, according to the late survey, is in lat. $43^{\circ} 23' 17''$, and long. $65^{\circ} 37' 13''$.

From the islet there are dangerous ledges extending to the southward of its S.E. extremity, and also to S.S.W. of Black Head, its N.E. end.

Of the first, the outermost is a rock of 7 feet, a mile to the south of the extremity of Cape Sable; and $\frac{1}{4}$ of a mile to S.E. of the *Horse Race*, of 12 feet, which makes a heavy tide rip. At more than half a mile outside of these, that is, $1\frac{1}{2}$ miles from Cape Sable, is a bank of 21 feet, over which the tide ripples strongly.

The *S.W. Ledge*, which is the outermost of the western range of shoals, is 2 miles W.N.W. of the *Horse Race*, and the same distance W. by S. of Cape Sable. It is exceedingly dangerous, as at $\frac{1}{4}$ mile within the South breaker are the *Pinnacle* and the *Round Shoal*, which are awash or dry 3 or 4 feet at low water. The very strong tides which occur here, added to the frequent fogs, render navigation most embarrassing. Therefore this coast should not be approached without a commanding breeze and clear weather. Of the stream, &c., M. des Barres says, "Here the tide runs at the rate of three, and sometimes four knots; and when the wind blows fresh, a rippling extends from the breakers southerly to the distance of nearly 3 leagues, and shifts its direction with the tide; with the flood it is more westerly, and inclines to the eastward with the ebb. At the Cape the tide, on full and change, flows at 8^h , and rises 9 feet."

BRASIL ROCK.—This rock has been variously described, but the following is correct, from Captain Shortland's survey. It is a flat rock, covering an area of about ten yards, and having 11 feet over it, at low water in calm weather; within a hundred yards from its base are from 6 to 8 fathoms of water: to the southward, at about a mile from the rock, the depths are from 18 to 20 fathoms; but toward the shore, the soundings are regular; 15 and 19 to 20 fathoms. The tide, by running strongly over the shoal ground, causes a great ripple, and makes the rock appear larger than it really is. From Cape Negro the bearing and distance to the rock are *S.S.W., true*, or *S.W. $\frac{1}{4}$ S.* by compass, 10 miles; Cape Baccaro Light, *S. $\frac{3}{4}$ E., true*, or *S. $\frac{1}{4}$ W.*, by compass, $5\frac{1}{2}$ miles; and, from the rock, Cape Sable bears *W. by N. $\frac{1}{4}$ N., true*, or *N.W. by W.*, by compass, $7\frac{1}{2}$ miles. Its given position is, latitude $43^{\circ} 21' 50''$, or longitude $65^{\circ} 27'$.

IV.—THE BAY OF FUNDY, AND THE COASTS BETWEEN CAPE SABLE AND PASSAMAQUODDY BAY.

GENERAL CAUTIONS.—An inspection of the Chart of the S.W. coast of Nova Scotia, and a consideration of the relative situation of that coast, as exposed to the ocean, with the consequent and variable set of the tides about it, as well as about the Island Manan, &c., will naturally lead the mariner to consider that its navigation, involving extraordinary difficulties, requires extraordinary attention. Previous events, the great number of ships lost hereabout, even *within a few years*, will justify the supposition. It is, indeed, a coast beset with peril; but the peril may be avoided, in a great degree, by the exercise of skill and prudence. To the want of both are to be attributed many of the losses which have occurred here.

In touching on this subject, Mr. Lockwood says, that the necessity of frequently sounding with the deep-sea lead, and the expediency of having anchors and cables ready for immediate use, cannot be too often urged, nor too often repeated. Vessels well equipped and perfect in gear, with anchors stowed, as in the middle of the Atlantic

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Ocean, have been wrecked in moderate weather, and so frequently, that such gross idleness cannot be too much reprobated; and, we may add, too much exposed.

TIDES.—As the tides are most particularly to be attended to, we shall attempt a description of them in the first instance, before we proceed to that of the coast and the consequent sailing directions.

The TIDE about CAPE SABLE has been explained in the preceding Section. From Cape Sable toward the Seal, Mud, and Tusket Isles, the flood sets to the northwestward, at the rate of from two to three miles in an hour: in the channels of these inlets its rate increases to four or five miles. At the Seal and Mud Islands the ebb runs E. by S., S.E., and South; varying, however, with the figure of the lands and the direction of the wind.

From the Tusket Isles the tide flows to the northward, taking the direction of the shore, past Cape St. Mary; thence N.N.W. toward Bryer's Island. The flood, therefore, sets but slowly up St. Mary's Bay, yet with increasing strength up the Bay of Fundy; still greater, as the bay narrows upward; so that the Basin of Mines and Chignecto Bay are filled with vast rapidity, and here the water sometimes rises to the extraordinary height of 75 feet. These tides are, however, regular; and, although the wind, in an opposite direction, changes the direction of the rippling, and sometimes makes it dangerous, it has little or no effect on their general courses.

The DANGERS about GRAND MANAN have been distinguished by wrecks as much as the S.W. coast of Nova Scotia; and the best passage is, therefore, on the west of that island. Here the tides course regularly and strongly; but among the rocks and ledges on the S.E. they are devious, embarrassing, and run with great rapidity. At the Bay of Passamaquoddy, from the S.E. land to the White Islands, the flood strikes across with great strength, and in light winds must be particularly guarded against.

The TIDE of St. JOHN'S HARBOUR, New Brunswick, will be noticed hereafter, as will be that of Annapolis. Through the Gut of the latter it rushes with great force and rapidity.

Strangers bound up the Bay of Fundy, to St. John's or Annapolis, should have a pilot; as the tides in this Bay are very rapid, and there is no anchoring ground until you reach the Bay of Passamaquoddy, or Meogenes Bay. In the Bay the weather is frequently very foggy, and the S.E. gales blow with great violence for twelve or fourteen hours; then shift to the N.W., and as suddenly blow as violently from the opposite quarter.

"The spring tides in the Bay of Fundy rise to 30 feet perpendicular, and neap tides rise from 20 to 22 feet; they flow on full and change, at St. John's, Meogenes Bay, Annapolis, Harbour Delute, L'Etang, and Grand Manan Island, at 12 o'clock. The tide sets nearly along shore."

"In Chignecto Bay the tide flows with great rapidity, as before mentioned, and at the equinox rises from 60 to 70 feet perpendicular. By means of these high tides, the Basin of Mines, and several fine rivers, which discharge themselves about the head of the Bay of Fundy, are rendered navigable. It is worthy of remark, that, at the same time, the Gulf of St. Lawrence tide, in Bay Verte, on the N.E. side of the isthmus, rises only 8 feet."

THE COASTS, ISLANDS, &c., of this extremity of Nova Scotia, have been surveyed by Commander P. F. Shortland, R.N., in 1855; and his elaborate work shows the dangerous character of the coast and its navigation.

Seal Island and Lighthouse.—The southernmost point of SEAL ISLAND, which bears from that of the ledge of Cape Sable nearly W.N.W. $\frac{1}{2}$ W. $5\frac{1}{2}$ leagues, lies in latitude $43^{\circ} 22' 32''$, and longitude 66. This island is more than two miles in length, north and south. The southern part, covered with shrub trees, is elevated 30 feet above the sea. Dangerous reefs extend to one mile and a half south from the south end of the island. Since the 1st of November, 1831, a white lighthouse on the S.W. part of the island but half a mile inland from the S. Point, has exhibited a conspicuous fixed light, 98 feet above high-water mark, which may be seen, on approaching, from every point of the compass.

At two miles and a half South from the lighthouse on Seal Island lies the *Blonde*, a rock uncovered at low water; on which the frigate of that name was lost in 1777. Close around it are from 7 to 10 fathoms. Within a mile westward from the *Blonde*, are heavy and dangerous overfalls, which present an alarming aspect. The *Elbow Rock*, the shoalest part of a reef, lies $1\frac{1}{2}$ mile S. by W. from the lighthouse, and there are several 15-foot patches to the N. and S. of it at half a mile distant. The *Purdy Rock* of 13 feet lies 2 miles S.E. by E. from the light, and is steep-to.

Off the west side of Seal Island is the rocky islet called the *Devil's Limb*, which may at all times be seen. To the south of it is *Lock Fyne Shoal*, which uncovers at L.W. springs, and half a mile to the N. of it is the *Limb's Limb*, which uncovers at 1 hour ebb. The channel inside them is much embarrassed by shoals.

Mud Isles, sometimes called the **NORTH SEALS**, consist of five low rugged islands. The southernmost, *Noddy Island*, is situate at $2\frac{1}{2}$ miles from the N.E. part of Seal Island. Between is a passage fit for any ship, but there are overfalls of 31 feet at the distance of a short mile from Noddy Island. In the channel are from 10 to 18 fathoms. This channel lies with Cape Sable, bearing S.E. by E. [*E. by S.*] distant 5 leagues.

The course and distance to pass from Cape Sable to between the Seal and Mud Islands are N.W. by W. six leagues. In this track may be found several overfalls, of from 15 to 7 fathoms, bottom of gravel, which break violently in spring tides. The north end of Seal Island is bold-to, one cable's length, 10 to 7 fathoms.

The Tusket Isles, is the group or cluster lying to the northward of the Mud Isles, and to the S.W. of the entrance of Tusket River. Some of them are of considerable size, and there are many shoals and ledges among them, which any description would imperfectly represent. On the west side of these isles, $3\frac{1}{2}$ miles off, are **GREEN ISLAND** and the **GANNET ROCK**; the latter, whitened with birds' dung, is 50 feet above the sea at high water. The Gannet Rock is nearly 6 miles N.W. $\frac{1}{2}$ N. from the southern or Bald Tusket; at 2 cables' length N. of it is a rock which shows at half tide, and at two-thirds of a mile South of it is a similar rock. The S.E. rock, which breaks at times, is $1\frac{1}{2}$ mile South of it. At $1\frac{1}{2}$ miles S.W. from it is the *Gannet Dry Ledge*, which uncovers at 2 hours' ebb; at 3 miles S.S.W. of it is the *Gannet S.W. Shoal* of 18 feet; at $4\frac{1}{2}$ miles South of it is the *Gannet S. Shoal* of 24 feet; and at 6 miles S. by W. from it is the *Jacko Ridge* of 27 feet, on which the tide rips. These numerous reefs show the great dangers of this neighbourhood, now well surveyed by Capt. Shortland in 1853.

At two and a half miles to the N.W. of the north-western Mud Isle, *Flat Island*, is a dangerous ledge, bare at 2 hours' ebb, called the *Soldiers*, which is more than half a mile in length from N.N.E. to S.S.W. At a mile and a quarter N. $\frac{1}{2}$ W. from this is another, the *Actæon*, which thence extends N. by W. two-thirds of a mile.

At $2\frac{1}{2}$ miles to the N.E. by E. of the Soldier's Ledge is the dangerous *Cleopatra Shoal* of 12 feet, which bears S. by E. $1\frac{1}{2}$ miles from the Southern or Bald Tusket; between it and the latter are some dangerous shoal patches of 13 and 18 feet, with deep water between them. The greatest possible care is required should a vessel get entangled amid this labyrinth of shoals and strong tide races. It ought to be carefully avoided by strangers.

Pubnico.—This harbour is a very good one; it is easy of access, and conveniently situated for vessels bound to the Bay of Fundy, which, in distress, may here find supplies as well as shelter. From the south end of Seal Island Reef, already described, to the entrance of Pubnico, the bearing and distance are N.E. $\frac{1}{2}$ E. 15 miles. The depths between vary from 20 to 16 fathoms, and thence to 12 and 6 fathoms, up to the beach, the proper anchorage for a stranger. On the western side, above Beach Point, is a ledge, partly dry at low water; the outer edge of which is marked by a buoy.

On *Beach Point* is a fixed light at 28 feet, visible 8 miles off. The entrance is between it and the buoy above mentioned, and both sides are bold-to. The best anchorage is a mile to the northward of the buoy.

At $2\frac{1}{2}$ miles Southward of *St. Ann's Point*, the W. point of Pubnico, is *St. John*

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Island, bold-to on the W., but on sailing northwards the St. John's Ledge, 2 miles to the S., must be avoided. By night, Pubnico light kept in sight outside the island clears it. The north side of St. John's Island affords shelter in a S.E. gale.

It is high water at Cape Sable at 8^h 30^m; at the Mud Isles at 9^h, and in the Tusket River at 9^h 30^m.

From the entrance of Pubnico, a course W. $\frac{1}{2}$ N., 4 leagues, leads clear to the southward of the Tusket Isles. On this course you will pass at a mile to the southward of the southernmost Tusket, or Bald Isle. A course W. $\frac{1}{2}$ S., 12 miles, will lead between and clear of the Mud Islands and Soldiers' Ledge, whence you may proceed either to the N.W. or S.W. according to your destination.

CAPE FOURCHU, or the FORKED CAPE, which lies in latitude 43° 47' 34", longitude 60° 10', is very remarkable, being rocky, barren, and high. It is a detached island, but connected by reefs to the inner island and forms two narrow prongs running out to the southward, from which it derives its name: the inlet, or *Outer Pulse Bay*, formed by them must not be mistaken for the entrance to Yarmouth, which, of course, lies to the westward of both of them.

The Lighthouse stands $\frac{1}{4}$ of a mile within the South point of the inner island. It exhibits a brilliant revolving light at 117 feet above the level of the sea; it is visible for one minute and a quarter, and invisible half a minute. The building is painted red and white, in vertical stripes.

Within this Cape is the harbour of YARMOUTH, which is small, but safe. Off the entrance, at 2 $\frac{1}{2}$ miles S.S.W. $\frac{1}{2}$ W., lies the *Roaring Bull* or *Bayshot*, a blind rock, which is dry at low water. It is best to pass outside it, as to the S.E. and within it are other shoal patches. There are other rocks in the entrance, and the fairway in is on the eastern shore, till opposite the point or isthmus on that side. At the extremity of the latter is a beacon; and under its lee, or to the northward, is the anchorage, with good ground, in 6 or 5 fathoms.

At a league and a half S. by E. from Cape Fourchu is *Cape Jeboque*; the land between is low. Within the point is the little harbour of JEBOQUE, which is shoal, and frequented only by the coasters. There are several shoals in the vicinity. The lands hereabout are good, of moderate height, and well settled.

From Cape Fourchu to CAPE ST. MARY, a bold cliff, the bearing and distance are N. $\frac{1}{2}$ E. 17 $\frac{1}{2}$ miles; and from Cape St. Mary to the S.W. end of Bryer's Island, N.N.W. 11 miles.

With Cape Fourchu bearing S.E. by E. $\frac{1}{4}$ E. 15 miles distant, lies the LURCHER, of which the shoalest spot is a sunken ledge of 9 feet at low water, $\frac{1}{4}$ of a mile long. At 2 $\frac{1}{2}$ miles N.E. $\frac{1}{2}$ E. from this is the N.E. shoal of 30 feet, a small spot on which the tide rips heavily. The soundings around these patches vary from 7 to 24 fathoms. From the Gannet Rock to this ledge, the bearing and distance are N.W. by N. 19 miles; and, from the Lurcher to Cape St. Mary, N.E. by E. 19 miles.

The TRINITY LEDGE, another reef, lies S.W. $\frac{1}{4}$ W. 6 miles from Cape St. Mary, and N. by W. 14 miles from Cape Fourchu. This danger covers a space of more than a quarter of a mile in extent, and three small rocks upon it are seen at low tides. The stream sets rapidly over it. The depth, to a mile around, is from 7 to 13 fathoms.

BRYER'S ISLAND, is an island only 3 $\frac{1}{4}$ miles in extent from N.E. to S.W., on the western side of the entrance of St. Mary's Bay. On its W. side is a lighthouse. A rocky spit extends 1 $\frac{1}{2}$ miles S.W. from the S.E. point of the island, and has a rock near its extremity, called the *Gull* or *Black Rock*, which is 6 feet above high water. At 2 miles S.W. by W. $\frac{1}{4}$ W. from it is the S.W. Ledge of 12 feet, a very small patch, which lies with the Gull Rock in one with Dartmouth Point, the S.W. end of Long Island, on the above bearing.

The Lighthouse stands about $\frac{3}{4}$ of a mile N. from the S.W. point of the island, is painted white, and shows a brilliant fixed light at 66 feet elevation.

LONG ISLAND.—The next island to Bryer's, forming the west side of St. Mary's Bay, is LONG ISLAND; it is 10 miles long from N.E. to S.W., and half a league in

breadth. Long Island is divided from Bryer's Island, on the S.W., by a strait, called *Grand Passage*, and on the N.E. from the Peninsula of St. Mary, by another, called *Petit Passage*.

In the *Grand Passage* the water is deep, but the channel crooked. At its South end is *Peter's Island*, on which is a white *lighthouse*, showing two fixed lights horizontally. It is bold-to on the South, and when to the N. of it, by keeping it on a South true or S. by W. $\frac{1}{2}$ W. bearing it will lead through the passage to the W. of the dangers at the N. end. The *Petit Passage* is about 280 fathoms wide in its narrowest part, and has from 20 to 30 fathoms of water: its shores are bold-to. On its western side, near the northern entrance, lies *Eddy Cove*, a convenient place for vessels to anchor in, out of the stream of the tide, which runs so rapidly, that without a fresh leading wind no ship can stem it. The south end of *Grand Passage* is $11\frac{1}{2}$ miles N. by W. from Cape St. Mary. That of the *Petit Passage* is three leagues to the north-east from *Grand Passage*.

BAY of ST. MARY.—At 17 miles above Cape St. Mary, upward, into this bay, the East shore is low, and runs out in sandy flats. The West shore presents high steep cliffs, with deep water close under them. The entrance of the River *Sissibou*, on the south side of the bay, is shoal, and within has a narrow channel of 2 fathoms of water to the town of Weymouth. Opposite to *Sissibou* lies the *Sandy Cove*, with a church at its head, where small vessels, when it blows hard, may ground safely on mud, and be sheltered from all winds.

BAY of FUNDY CONTINUED.—We now proceed with the particular description of the coasts of the Bay of Fundy, commencing with Bryer's Island, the lighthouse on which has been described.

Off the N.W. side of Bryer's Island are several dangers, which must be cautiously avoided. Of these, the outer are called the *Northwest Ledge*, and *Beatson's Ledge*. The *N.W. Rock* has 6 feet least water on it, and is 4 miles N. $\frac{1}{2}$ E. of the Lighthouse on Bryer Island, and 3 miles N.W. of the N. point. *Beatson Ledge* has two shoal spots of 12 feet, which lie a mile west of the N.W. Ledge. At a mile inside the latter is the *Frenchman's Elbow*, with 33 feet over it. The strong tides make heavy ripples on them.

The coast from the south part of Long Island to the Gut of Annapolis, is nearly straight, and trends N.E. by E. 35 miles. The shore is bound with high rocky cliffs, above which is a range of hills that rise to a considerable height; their tops appear smooth and unbroken, except near the *Grand Passage*, *Petit Passage*, *Sandy Cove*, and *Gulliver's Hole*, where those hills sink in valleys.

ANNAPOLIS.—The entrance of the GUT of ANNAPOLIS, or Digby Gut, lies in latitude $44^{\circ} 42'$, and longitude $65^{\circ} 46\frac{1}{2}'$. The shore, on both sides, without the Gut, is iron-bound for several leagues. From *Petit Passage*, there is a range of hills rising gradually to a considerable height, to the entrance of the Gut, where it terminates by a steep fall. Here you have from 25 to 30 and 40 fathoms of water, which, as you draw into the basin, shoalens quickly to 10, 8, and 6 fathoms, muddy bottom. The stream of ebb and flood sets through the Gut at the rate of five knots, and causes several whirlpools and eddies. The truest tide is on the eastern shore, which is so bold-to, that a ship might rub her bowsprit against the cliffs, and be in 10 fathoms of water. *Point Prim*, on the western side of the entrance, runs off shoal about 30 fathoms. Ships may anchor on the eastern side of the basin, or run up eastward, 4 miles, toward *Goat Island*; observing, when within the distance of a mile and a half from it, to stretch two-thirds of the way over to the north shore, until past the island, which is shoal all round; and thence to keep mid-channel up to the town: the depths, 4 and 5 fathoms.

There is a *lighthouse* on *Point Prim*, the light of which is *fixed*, and 76 feet above the sea. Caution is requisite on approaching the Gut, as *Gulliver's Hole*, $2\frac{1}{2}$ leagues to the westward, presents nearly similar features, and a mistake might be dangerous. The lighthouse is, however, a sufficient distinction, if attended to.

There is no difficulty in going through Annapolis Gut, if you have a commanding

breeze, although the tide is very rapid, and the eddies strong. At about one-third through lies *Man-of-War Rock*, about a cable's length from the south shore: by keeping in mid-channel you will clear it.

ANNAPOLIS to the BASIN of MINES.—From the Gut of Annapolis up the bay to Cape Split, the coast continues straight, and nearly in the same direction, with a few rocky cliffs near the gut, and many banks of red earth under high lands, which appear very even. The chief noticeable points on this unbroken line of coast are *Port Williams*, or *Marshall Cove*, 26 miles from Digby Gut, where there is a small green light, and *Margaretville*, 11½ miles further, where there is a red light.

In the gut, leading into the Basin of Mines, from Cape Split to Cape Blommedown (or Blomidon), and from Cape Dore (or D'Or), on to the north side, to Partridge Island, the land rises almost perpendicular from the shore, to a very great height. Between Cape Blomidon and Partridge Island there is a great depth of water; and the stream of the current, even at the time of neap-tides, does not run less than at the rate of 5 or 6 fathoms.

Cape Dore and *Cape Chignecto* are high lands, with very steep cliffs of rocks and red earth, and deep water close under them. You have nearly the same kind of shore to the head of Chignecto Bay, where very extensive flats of mud and quicksand are left dry at low water. The tides come in a *bore*, and rush in with great rapidity; they are known to flow, at the equinoxes, from 60 to 75 feet perpendicular.

The *Isle Haute* is remarkable for the great height and steepness of the rocky cliffs, which seem to overhang on the west side. There is a good landing-place at its eastern end, and anchorage at half a mile off, in 18 fathoms, with the low point about N.E. by N., where, also, is a stream of water running into the sea. The east end of this isle bears from Cape Chignecto S.W. ½ S. 5½ miles, and from Cape D'Or W. ½ N. 9 miles.

BASIN of MINES.—The entrance is 7 miles wide between Cape Dore and *Black Rock Point* on the S. On the latter is a white *lighthouse*, which shows a bright fixed light at 45 feet. There are whirlpools off Cape Split, which are dangerous with spring-tides, and run at about 9 knots. Having passed this place, you may come to an anchor in a bay of the north shore, between Partridge Isle, to the east, and Cape Sharp, on the west. From this spot, if bound to AVON RIVER, it will be necessary to get under way two hours before low water, in order to get into the stream of the Windsor tide on the southern shore; otherwise, unless with a commanding breeze, a vessel is likely to be carried up with the Cobequid or Eastern tide, which is the main stream, and runs very strongly, both ebb and flood. The Windsor tide turns off round Cape Blomidon, down to the southward, and then again is divided; one part continuing its course up to Windsor, and the other forms the Cornwallis tide, running up the river of that name.

In running into Windsor River, a white *lighthouse*, which shows a bright fixed light, on *Horton Bluff* (within the river on the west), should be kept in a south bearing, and the gap in the land formed by *Parsborough River*, North; this will take you through the channel between the Flats, which cannot be passed at low water by a vessel drawing 15 feet, much before half-tide. Off Horton Bluff the ground is loose and slaty, and a ship will be likely to drag her anchors with a strong breeze, particularly at full and change: perhaps it may be best for men-of-war to moor across the stream, and full one-third from the bluff. At Parsborough a *bright fixed light* is shown from a white tower on Partridge Island on the west side of the river.

The Banks and Flats appear to be composed of soft crumbling sandstone, which is washed down from the surrounding country in great quantities during the spring; and, by accumulating on them, are constantly increasing their height.

It is *High Water*, on the full and change, at Cape Chignecto and Cape D'Or at 11½, and spring-tides, in general, rise from 30 to 40 feet. Off Cape Split, at 10½, rise 40 feet: South side of the Basin of Mines, 11½, rise 38 feet.

The Basin of Mines and Chignecto Bay are surrounded with flourishing settlements, and abound in coal, plaster, limestone, and other minerals. On Burncoat Head, at

the mouth of Cobequid Bay, a *bright fixed light* is shown at 95 feet, from a white tower.

Chignecto Bay runs up E.N.E., and may be considered as the north-eastern branch of the Bay of Fundy. It is divided from the Mines Channel by the peninsula of which Cape Chignecto is the western extremity: *Cape Enragé* lies about 12 or 13 miles within it, on the north side. The *lighthouse* on this cape is a square building painted white, and showing a brilliant fixed light at 120 feet above the water.

On *Cape Capstan*, the N.E. point of *Apple River* entrance, and opposite Cape Enragé, is a white *lighthouse*, which shows *two fixed lights* 24 feet apart horizontally at 40 feet.

Eleven miles above Cape Enragé the bay divides into two branches, the one leading to *Cumberland Basin* and the River *Missiquash*, which runs across the isthmus, and is the boundary between Nova Scotia and New Brunswick; the other branch runs northerly to the *Potoudiac River*. On the west side of its mouth, on *Grindstone Island*, a *fixed light* is shown from a white lighthouse. The Cumberland branch is navigable to within 13 miles of Verte Bay, in the Gulf of St. Lawrence; and it is remarkable that, when the rise of tide in the latter is only eight feet, it rises to above 60 feet in Cumberland Basin.

NORTH COAST OF THE BAY OF FUNDY, COMMENCING EASTWARD.—The township of St. Martin's, on the north shore, to the N.W. by N. of Cape Chignecto, is much broken, with steep declivities, &c. The weather here is commonly humid; the wind changeable and blustering, with limited and short intervals of sunshine.

From Quaco, at about 19 miles westward of St. Martin's, to the harbour of St. John's, the land, as already described, is high: the interior hills rise in easy inequalities; but the ravines of the cliffs appear deep and gloomy. The indents have beaches; and Black River, at 5 leagues west of Quaco, although dry from half-tide, is a safe inlet for a small vessel.

Quaco Lighthouse, erected on a small rock lying off Quaco Head, is painted white and red, in horizontal stripes; the light is brilliant and revolving every 20 seconds, elevated 70 feet, visible 15 miles off.

QUACO LEDGE is a dangerous shoal, lying in the middle of the Bay of Fundy, and off Cape Chignecto. It consists of gravel, and many ships have grounded on it; and is about half a mile broad by $3\frac{1}{2}$ miles in length from N.W. by N. to S.E. by S. It lies $8\frac{1}{2}$ miles S.E. $\frac{1}{2}$ S. from Quaco Lighthouse, and 15 miles W. by N. from Isle Haute. There are several irregular patches of rocks lying off its N.E. side. It shows at half-tide, and dries for about 100 yards, having but 12 feet of water over it with common tides; half a mile to the N.E., the eddies with the flood-tides are strong and numerous, the ships head going nearly round the compass in the space of half an hour; the ebb is a true tide, and sets in a W.S.W. direction towards the ledge. The soundings are from 7 to 14 fathoms, at about two cables' lengths all the way round; but they shoal more gradually from the N.E. The mark to go clear to the southward of the Quaco Ledge, is Cape Doré, at the entrance of the Mines channel, on with the south side of the Isle Haute.

THE HARBOUR OF ST. JOHN—The entrance of this harbour lies N. by W. 12 leagues from the entrance of Annapolis, and may be distinguished by a lighthouse on *Partridge Island*, at a mile within the exterior point, *Cape Maspé* on the east, and *Meogenes Isle* on the west. Partridge Island is about two miles southward from the city. It equally protects the harbour, and guides the mariner to its destination.

Lights.—The *lighthouse* on Partridge is painted red and white in vertical stripes; it exhibits a *fixed light*, at 120 feet above the level of the sea. Near it is another tower, furnished with a steam whistle, sounding every minute in thick or foggy weather.

To the N.E. of the lighthouse is a flagstaff and yard, from which signals are made

to the city of the approach of vessels, &c. There is also a bell buoy moored off the foul ground near the lighthouse.

Besides the lighthouse on Partridge Island, there is a *beacon tower and light* on the Spit, within the harbour. The house is striped vertically red and white, and the light is fixed, 35 feet above high water, and visible 10 miles off. This light is beneficial to the port, as ships may now enter it at all hours of the night. Its situation is on the extremity of a spit or bar on the western or left side of the entrance to the harbour, which uncovers at two-thirds ebb.

Southward of Partridge Island, the bottom for several miles is muddy, and the depth gradual, from 7 to 20 fathoms, excellent for anchoring. On the bar, west of the island, the least depth is 10 feet; but, eastward of it, 16 feet. The anchoring depth, opposite to the city, is from 22 to 7 fathoms.

The city of St. John stands on an irregular descent, with a southern aspect; and, on entering the river, presents a picturesque appearance. The river's mouth is narrow and intricate; many accidents have happened to those who have attempted the navigation without a pilot.

A breakwater is erected at the east side of the entrance, below the town, for the purpose of reducing the inlet of the sea into the harbour, especially during a southerly gale.

The entrance into the river, two miles above the city, is over the *FALLS*, a narrow channel of 80 yards in breadth, and about 400 long. This passage is straight, and a ridge of rocks so extends across it as to retain the fresh water of the river. The common tides flowing here about 20 feet, at low water the waters of the river are about 12 feet higher than the water of the sea; and at high water the water of the sea is from 5 to 8 feet higher than the water of the river; so that in every tide there are two falls; one outward and one inward. The only time of passing this place is when the water of the river is level with the water of the sea, which is twice in a tide; and this opportunity of passing continues not above ten minutes: at all other times it is impassable, or extremely dangerous.

After you have entered through this place, called the *Falls*, you enter into a gullet, which is about a quarter of a mile wide and a mile long, winding in several courses, and having about 16 fathoms in the channel. Having passed this gullet, you enter a fine large basin, about one mile and a half wide, and seven miles in length, entering into the main river of St. John.

The River of St. John has sufficient depth of water for large ships to the Falls, whence it continues, navigable 60 miles up, to Fredericton, the seat of government, for vessels of 60 tons. At times of great freshes, which generally happen between the beginning of April and the middle of May, from the melting of the snow, the Falls are absolutely impassable to vessels bound up the river, as the tide does not rise to their level.

To enter St. John's Harbour on the east side of Partridge Island, bring the stone barracks in one with the Wesleyan Chapel; this mark will lead you clear of the foul ground off Partridge Island, N.W. point, and as soon as you get Carlton Church on with the end of the cliff, starboard your helm, and keep this mark on for about $\frac{1}{4}$ of a mile, or until you bring the stone church (which stands at the north part of the city of St. John) in one with the end of the breakwater; then immediately change your course and run in by this latter make past the Spit beacon lighthouse, leaving it on your port hand; passing this, run up the middle of the harbour, and anchor off the wharves.

Should the ebb-tide have commenced at the beacon, it would be highly improper to attempt gaining the harbour by that tide, but wait till the next half-flood to go over the bar, as both sides of the entrance to the harbour are composed of sharp rocks, which dry at low water, and the ebb-tide, especially in the spring of the year when the ice and snow are dissolving, is so exceeding rapid and strong, that all the anchors you possess could not prevent your driving.

It will seldom or never happen that a stranger has to enter the harbour without

a pilot, as they are always on the look-out, and are sometimes met with near Grand Manan; and in a fog, by firing a gun occasionally, they will generally find the ship.

The following are the directions formerly given by Mr. Backhouse:

"When you have made Meogenes Island, or Partridge Isle, so as to be distinguished from the lighthouse on the latter, then make a signal for a pilot, and the intelligence from Partridge Island will be immediately communicated to the city of St. John, whence a pilot will join you. Should the wind be contrary, or any other obstruction meet you, to prevent your obtaining the harbour that tide, you may sail in between the S.W. end of Meogenes Island and the main, or between the N.E. end and the main, and come to anchor in 4 or 5 fathoms at low water, mud and sandy bottom. The mark for the best anchoring ground here, is to bring the three hills in the country to the N.E. in a line within Rocky Point Island and the house on Meogenes Island to bear S.E. by S.

"Should the tide of ebb have taken place at the beacon, you must not, by any means attempt to gain the harbour that tide, but wait the next half-flood, to go over the bar, as both sides of the entrance of this harbour are nothing but sharp rocks, dry at low water; and the tide of ebb is so rapid in the spring when the ice and snow are dissolved, that all the anchors on board will not hold the ship from driving.

"On the Nova Scotian side of the Bay of Fundy, your soundings will be from 50 to 60, 70, 80, to 95 fathoms; stones like beans, and coarse sand; and as you draw to the northward the quality of the ground will alter to a fine sand, and some small shells with black specks. Approach no nearer to the south shore than in 50 fathoms; and as you edge off to the N.W. and W.N.W., you will fall off the bank, and have no soundings."

Mr. Backhouse continues:—

"When you have passed Meogenes Island, edge in-shore toward Rocky Point [or the Stag Rock], until Meogenes Point [*Negro Head*] is in a line over the N.W. corner of Meogenes Island; sailing in between Rocky Point and Partridge Island, with these marks in one, will lead you in the best water over the bar (15 feet), until you open Point Maspeck to the northward of the low point on Partridge Island; then starboard your helm, and edge toward Thompson's Point, until the red store, at the south end of St. John's is in a line over the beacon; keep them in one until you pass the beacon at the distance of a ship's breadth; then haul up N.N.W. up the harbour, keeping the blockhouse at the upper part of the harbour open to the westward of the king's store, situate close to the water side, which will lead you, in mid-channel, up to the wharfs, where you may lie aground dry, at half-tide, and clean your ship's bottom, or lie afloat in the stream at single anchor, with a hawser fast to the posts of the wharfs on shore.—N.B. The tide of flood here is weak, but the ebb runs very rapidly all the way down past Meogenes Island."

Of the TIDE, Captain Napier, R.N., when commanding H.M. Sloop *Jaseur*, has said:—"The great volume of fresh water which constantly runs down the Harbour of St. John, in April and May, causes a continual stream outward during that period, sometimes to the depth of nearly 5 fathoms, under which the flood and ebb flow regularly; the maximum of its velocity we found to be 4½ knots, and the minimum 2 knots; but as the log floated very deep in the fresh water, and ultimately sunk in the salt water running underneath, it would not be too much to estimate the maximum at 5 knots, and the minimum at 2½. The fact of the under tide beginning at the depth of nearly 5 fathoms, was ascertained by sinking a lead down to that depth, when it was carried the same way as the current on the surface; but, when lowered below that, it was carried in a contrary direction."

ST. JOHN'S TO PASSAMAQUODDY.—From Cape Maspeck, *Negro Head*, the opposite extremity of the Bay of St. John, bears W. ½ S. 6½ miles; and the coast from *Negro Head* to *Cape Musquash* trends W.S.W. 4 miles. A remarkable rock, the *Split Rock*, marks the Cape; and at a mile farther westward is the entrance of Mus-

Small Harbour, a well-sheltered cove, in which there is good anchoring ground in 3 and 4 fathoms.

An irregular coast now succeeds to *Point Lepreau*, 10 miles W.S.W. $\frac{1}{2}$ W. Near the middle of it are the inlets called *Dipper* and *Little Dipper*, which admit small craft and boats. Between *St. John's Harbour* and *Point Lepreau* the shore is generally bold; the land broken and high. Many accidents have happened in the vicinity of the Point, and it should therefore be approached with caution.

Point Lepreau Lighthouse is painted red and white, in horizontal stripes, five feet broad. It exhibits two *fixed lights*, vertically, one being above the other, and distant 28 feet. The lower lantern is fixed to the outside of the building, and both lights can be seen from every point of the compass where they may be useful. The lighthouse bears the easternmost of the Wolves E. by N. 11 miles, and from *Head Harbour Light* (*Campobello Island*) E. $\frac{1}{2}$ N. about 20 miles. The distance hence along shore, to a sight of *Partridge Island*, *St. John's*, is $6\frac{1}{2}$ leagues.

At five miles N.W. from *Point Lepreau* is *Red Head*. The irregular indent between is *Mace's Bay*, a deep and dangerous bight, in which several vessels have been embayed and wrecked. On each side are several clusters of islets and rocks, but there is a good place of shelter, *Pokkogan*, at the head of it; and there is good anchorage in the centre, in 3 or 4 fathoms, which will be obtained by entering near the western shore.

GRAND MANAN.—This island, 11 miles in length, from N.N.E. to S.S.W., by 4 or 5 in breadth, is included in Charlotte County, in the Province of New Brunswick. The nearest distance from the opposite coast of the State of Maine is two leagues. The western side is very high; its cliffs being nearly perpendicular, and about 600 feet high above the level of the sea. On this side is but one little inlet, *Dark Cove*, which affords shelter for boats only. The northern head (*Bishop*) is equally abrupt and bold; but to the south-eastward of it is *Whale Cove*, having anchoring ground, with 25 to 15 fathoms, in which ships may stop for a tide, during a southerly gale, but it is exposed to the north.

The eastern coasts of Manan abound in fish, and the interior is in a state of rapid improvement. The soil is in general good, and it produces all the species of fir, beech, birch, and maple, in size and quality adequate to all purposes for which they are generally used.

To the S.E. of *Whale Cove*, on the same side of the island, is *Long Island Bay*, so called from the island on the S.E. side of it. The N.E. point of this bay, called, from its shape, the *Swallow's Tail*, is high, bold, rugged, and barren. The bay is open, but possesses all the advantages of a harbour: the bottom is wholly of mud, excepting a ridge of rocks and gravel that shows itself within the *Swallow's Tail*, and the north end of *Long Island*; there is also a small cluster of sunken rocks, of 5 feet at low water, at half a mile from *Long Island Point*.

A lighthouse is constructing on the *Swallow's Tail*, to show a bright fixed light at 148 feet above high water, and consequently to be visible at 17 miles off.

Under *Long Island*, and opposite to the beach, ships may anchor, even locking in the north end of *Long Island* with the *Swallow's Tail*, on a strong muddy bottom, entirely sheltered from the wind and sea. In the northern part of the bay, bottom of stiff clay, vessels have frequently been protected during a severe gale.

Half-way down off the eastern coast of *Great Manan*, at a mile from shore, is *Big Duck Island*, under which there is good ground; but here a pilot will be required, as there are hidden dangers in the vicinity. To the south-westward and southward of *Duck Island*, lie *Ross*, *Cheney*, and *White Head Islands*; from these the rocks and foul ground extend $6\frac{1}{2}$ miles to the S.S.E.

On the Southern bank of *Great Manan*, the most dangerous ledge is that called the *Old Proprietor*, which lies two leagues S.S.E. from *White Head Island*, and covers the space of half an acre at low water: it is dry at half-ebb. When covered, the tide sets directly over it, at the rate of four miles an hour. The S.W. head of *Manan* open of all the islets off the south side of that island, will lead clear to

the southward of it. The north-easternmost high land, open of the islets on the east, leads clear to the eastward of all the dangers. During an easterly wind, the tide-steps are impassable.

The **THREE ISLANDS** (Kent's), the southernmost of the Manan Islets, are low and ledgy. The eastern side of the largest is bold to the rocks, which are at all times visible. Off the N.W. of these rocks is a ledge called the *Constable*, dry at low water. These isles, with Green Islets to the northward of them, afford occasional anchorages, in from 14 to 7 fathoms.

WOOD ISLAND, on the south side of Manan, with the S.W. Head of the latter, form a bay containing excellent ground. The upper part and head of it, in a gale of wind, are places of security; and here supplies, if requisite, may be obtained from the inhabitants.

Between Wood Island, on the S.W., and Rose Island, on the N.E., is the passage to **GRAND HARBOUR**, a shallow muddy basin, into which you may enter by passing near the *Green Islets*. It is a convenient place for vessels without anchor or cable, as they may lie in the mud, in perfect security. At the entrance, which is narrow, the depths are from 6 to 3 fathoms, bottom of clay.

The **Gannet Rock**, a small rock 40 feet high, and having many sunken rocks and ledges about it, stands at the distance of $3\frac{1}{2}$ miles S.S.W. from the Three Islands. The ledges and sunken rocks in the vicinity always break.

The **Lighthouse** on the Gannet Rock is painted vertically half black and half white. The light, which is 86 feet above high water, shows a bright flash every 20 seconds. A gun is fired to answer signals during fogs.

The Commissioners of Lighthouses, in their specification of the lighthouse, annexed thereto the following remarks, dated St. John, 4th Oct. 1831:—

This light, from its proximity to several very dangerous ledges and shoals, ought not to be run for; it is intended to give timely warning to vessels which are, by the rapid tides about these ledges, frequently drawn into danger, and too often wrecked.

The dangerous shoal called the *Old Proprietor*, which dries at three-quarters ebb, bears from this lighthouse E. $\frac{1}{2}$ S. about $7\frac{1}{2}$ miles. St. Mary's Ledge, dry at all times, S.W. by W. $\frac{1}{2}$ W. $1\frac{1}{2}$ mile. Northerly from this ledge, the whole space westerly from the lighthouse, for the distance of five miles, is full of dangerous ledges, (several of them dry at high water) called the *Murr Ledges*; the inner or northernmost of these ledges bears from the light W.N.W. nearly, and is dry at two-thirds ebb.

Within the *Murr Ledges*, there is a clear channel round the south-west head of Grand Manan, which bears from the lighthouse N.W. $\frac{1}{2}$ N. about $7\frac{1}{2}$ miles. Black Rock, off White Head Island, bears N.E. $\frac{1}{2}$ E. about 8 miles. Vessels, except in cases of extremity, ought not to attempt running between this rock and the *Old Proprietor*, as there are some dangers in the way, the ground rocky, and the tides very rapid.

The S.W. point of the *Machias Seal Islands* bears from this lighthouse W. by S. 12 miles, and the N.E. rock off these islands W.N.W. about the same distance.

Between the northernmost and southernmost of the *Murr Ledges*, there is a range of dangerous rocks and shoals, many of them always above water, and which extend westward from the lighthouse about four miles; from this range, further westerly about eight miles lies a dangerous breaker, called the *Roaring Bull*; this may be avoided by keeping three remarkable headlands near the S.W. end of Grand Manan open.

Machias Seal Isles and Lights.—On the southernmost of these isles are two lighthouses, first lighted in September, 1832; by which circumstance of two lighthouses at the same station, they will be immediately distinguished from all other lights upon the coast, British or American. Both the buildings are painted white: they stand at 200 feet apart, exhibit brilliant *fixed lights*, horizontally, about 45 feet

above high water, and bear from each other, when in a line, E.S.E. and W.N.W. with the keeper's house between them: these lights bear W. by N. 13 miles, from that on the Gannet Rock. When in a line bearing W.N.W., they lead clear of the ledges lying to the eastward. If approaching to the latter, a vessel must of course tack or stand off to the southward, into deep water.

The following are the bearings of the lighthouse, viz.—From the southernmost Murr Ledge (St. Mary's), W.N.W. westerly; Gannet Rock Light, W. by N. 13 miles; Southern Head of Grand Manan, W. by S.; Northern Head of Grand Manan, S.W. $\frac{1}{2}$ W.; North-east Rock, distant two miles, S.W. by S.; Little River Head, by E.; Libby Island Lighthouse (American), S.E. by E.

Vessels standing in to the northward, between these lights and the Gannet Rock, should tack or haul off the moment they bring these lights into one, as they will not then be more than three-fourths of a mile from the Murr Ledges, if more than five miles to the east of the lights.

At 3 $\frac{1}{2}$ miles West from the Seal Island Lighthouse, is a rock, and on which several vessels have struck. It was seen by Captain Johnstone, of the ship *Liverpool*, trading to St. John's, in 1834, and is acknowledged to exist by the regular traders and pilots.

The CHANNEL between GRAND MANAN and the coast of the STATE OF MAINE is from 9 to 6 miles wide; both shores bold, the depths quickly increasing on each side, from 12 to 70 and 75 fathoms; the greatest depths near Manan, where you haul quickly, from 10 to 75. This is the best passage up the Bay of Fundy, because the safest, and most advantageous with the prevalent winds, which are from the westward.

The WOLF ISLANDS, which lie eight miles to the N.E. by N. from Grand Manan, are from 60 to 100 feet in height, steep and bold. The passages between them are deep, and they afford temporary shelter, in the depth of from 20 to 12 fathoms. Between Manan and these Isles the depths vary from 70 to 40 fathoms, bottom of oaze and mud.

PASSAMAQUODDY BAY.—The Bay of Passamaquoddy, with the Chapeneticook River, or River of St. Croix, divide the British American territory from that of the United States. The south-western side of the bay is distinguished by a lighthouse on Quoddy Head, which was erected by order of Congress, in the year 1808. It exhibits a *fixed light*, which in clear weather may be seen seven leagues off. Its lantern is 133 feet above the sea. Near the lighthouse is an alarm-bell, which during foggy weather will strike ten times in a minute; its sound in calm weather may be heard five miles off. From the north head of Grand Manan the lighthouse bears W.N.W., 7 miles; and from the Machias Seal Islands N.E. by N., 17 miles.

Seal Rocks.—At about one-quarter of a mile without Quoddy Head lie two remarkable rocks, called the *Seal Rocks*, which at a distance resemble a ship. To the eastward of these there is a whirlpool. In passing here it is therefore requisite to give these objects a berth of half or three-quarters of a mile before you haul in.

There are several passages into Passamaquoddy Bay; but particularly the southern (commonly called the *Western*), the *Ship Channel* or *Middle Passage*; and the *Northern* (commonly called the *Eastern*) Passage. The first is that between the Isle of Campobello and the main land to the S.W. The Ship Channel is that between Campobello and Deer Island; the Northern Passage is that along the New Brunswick shore.

At 2 $\frac{1}{2}$ miles N.E. $\frac{1}{2}$ E. from the northern extremity of Campobello is the *White Horse*, appearing at a distance like a white rock; but it is really a small islet, barren and destitute of trees, while the isles about are covered with them; it therefore serves as a beacon.

At the N.E. end of Campobello is *Head Harbour*, a place of easy access, small, but perfectly safe, with 6, 7, and 8 fathoms, muddy bottom. A *good fixed light* was first exhibited on the extreme point of this harbour, 1st November, 1829, which enables vessels to enter at all times. The light is elevated 64 feet, and the building is white,

with a red cross on it. The fine harbour, called *Harbour Delute*, lies on the west side of the island; and at its S.W. end is *Snug Cove*, another good harbour, where there is a British Custom-house. *Moose Island*, on the opposite side, belongs to the United States, and British ships are not allowed to ride there above six hours at any one time. In a fine cove at the south end of this island a ship of 500 tons may lie, moored head and stern, safe from all winds, but the anchors are very much exposed with wind from the east.

Quoddy Head, on which stands the lighthouse above mentioned, forms the south side of the Soutern Passage, the entrance of which, between Campobello and the Head, is a mile in breadth; but the passage gradually narrows to the W.N.W. and N.N.W., and at two miles up a rocky bar stretches across, which is dry at low water. At rather more than a mile within the entrance, you may come to anchor, in 4 or 5 fathoms, well-sheltered, either by day or night. Here a pilot may be obtained, on firing a gun and making the usual signal, who will take the ship to Snug Cove or Moose Island, whence another may be obtained for St. Andrew's, the River Scodiac, or St. Croix, &c.

LARGE SHIPS FOR PASSAMAQUODDY BAY, pass to the eastward of Campobello, steering N.E. by E. and N.E. toward the Wolf Isles, which lie about $6\frac{1}{2}$ miles eastward from the northern part of Campobello. So soon as the passage between Campobello and the White Horse bears W.N.W., steer for it, leaving the White Horse at a distance on the north or starboard side, and keeping Campobello nearest on board. You will now, proceeding south-westward, leave a group of islands on your starboard side, and will next see Harbour Delute, above-mentioned.

Between the Wolves and the north end of Campobello, there is a depth of from 60 to 100 fathoms. With the latter bearing S.S.E. or S.E. there is a depth of 10 and 20 fathoms, where ships may anchor securely from all winds. The courses thence to Moose Island are S.W. by W. $\frac{1}{2}$ W. and S.W., 5 miles.

If bound from Moose Island up the River Scodiac, as you pass *Bald Head*, opposite Deer Island, give it a berth of half a mile, as a ledge of rocks lies off it. Having passing this point, the course and distance to *Oak Point*, or *Devil's Head*, will be N. by W. 4 leagues. The latter may be seen from the distance of 10 or 12 miles.

St. Andrew's.—The Town and Port of St. Andrew lie on the eastern side of the entrance of the Scodiac. A small island, *Navy Island*, forms the harbour. This island is bold-to, on its S.W. side, but eastward of it is a shoal bank, stretching nearly half a league from St. Andrew's Point. A *fixed light* is shown on the N. point of the entrance. The town is a pleasant little place; and the harbour being good, many ships load timber here, which is generally much longer than that of Nova Scotia. The merchants of this town load timber also at other places, viz., at Oak Bay, on the Scodiac, and at Rushabee, Didiquash, and Magadavick, on the N.E. side of Passamaquoddy Bay, all being excellent and very convenient harbours. In the bay, in general, are from 17 to 25 fathoms of water.

Etang Harbour, which lies to the eastward of the North Passage of Passamaquoddy Bay, is recommended to the mariner as one of the best and most convenient harbours in British America. It has two entrances, which, though narrow, have very deep water, and either may be taken, according to circumstances. The principal one is a mile and a half N.E. by N. from *White Horse Isle*, between two islands, *Pais* and *Bliss*. To run into this place, bring the centre of the White Horse to bear S.W. by S., and run northward with that bearing, until you pass a low, flat, rocky point on Bliss or Etang Island. Having passed this point, keep the island close on board until you come up to a ledge which shows itself, and which lies off a round island covered with trees on the port side. The ledge is bold close-to. Having advanced thus far, you may anchor near the centre of the harbour, inclining under the north shore, in 8 or 10 fathoms. The only inconvenience here is, the extreme tenacity of the ground, for which every precaution should be taken, that the anchor may not be lost. As the rise and fall of the tide are considerable, a sufficient scope of cable should, of course, be allowed.

BEAVER HARBOUR.—At 5 miles E. by N. from the centre of Etang Harbour

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9 37

is that of *Beaver Harbour*, another snug place of shelter, with 15 to 11 fathoms at the entrance, and 5 in the centre. In sailing in, keep the west shore on board, as a reef stretches half-way over from the opposite side: in the line of this reef are 3 and 4 fathoms. From the S.E. point of this harbour, Point Lepreau, noticed on page 203, bears E. by S. 11 miles.

TIDES.—Within the Southern Passage of Passamaquoddy Bay, common tides rise from 20 to 25 feet. At Moose Island the tide flows at 11½, full and change; and runs, when strongest, between Moose Island and Marble Island, and between Deer Island and Campobello, nearly five miles an hour. In the Bay, the stream of tide is scarcely perceptible. On the eastern side of Grand Manan it is high water at 10½, springs rise 25, and neaps 20 feet.

GENERAL REMARKS ON, AND DIRECTIONS FOR, THE BAY OF FUNDY.

Ships navigating the BAY OF FUNDY have to encounter an atmosphere almost constantly enveloped in thick fogs, tides setting with great rapidity over the rocks and shoals with which it abounds, and a difficulty of obtaining anchorage, on account of the depth of water: so that, under these circumstances, the most unremitting attention is requisite, in order to prevent the disastrous consequences which must necessarily attend a want of knowledge and caution.

When off *Cape Sable*, with a westerly wind, and destined for the Bay, it is best to make the coast of the United States about the Skuttock Hills and Little Manan light-house, described hereafter; as you can pass with greater safety to the westward of Grand Manan than to the eastward, and can have shelter, if required, in the several harbours of that coast. Add to this, that

Vessels bound up the Bay to St. John's, &c., should make the coast of Maine, on the west, rather than the eastern coast, because it is bold, and the prevalent winds from the westward may secure the passage; also that, during the summer months, the sky and horizon are generally quite clear on the United States' coast, while the shores of Nova Scotia and greater part of the Bay of Fundy are enveloped in fog.

On proceeding to the westward of the Machias Seal Isles, be cautious in avoiding the rock lying 3½ miles to the west of the lighthouse on these isles, as shown in page 205.

Between *Grand Manan* and the coast of *Maine*, the passage is free from danger; vessels beating through, generally stand from side to side, particularly in fogs, the depth being from 12 to 72 fathoms, with a bold shore on each side, and the tide through regular and strong. The Wolf Islands may be passed on either side, having deep water close to; but afford no sheltered anchorage, except for small fishing vessels in summer time: they are, as already noticed, from 60 to 100 feet high. With light winds, a lee tide, or thick weather, you may let go an anchor anywhere between the Wolf Islands and *Beaver Harbour*, in good holding ground, in a depth of 20 or 25 fathoms. Point Lepreau is hold-to, but was formerly dangerous in dark weather, as it projects so far into the sea. Its lighthouse, with double lights, as described on page 203, is now an excellent guide. Hence to St. John's, the course is free from danger.

When steering between *Grand Manan* and *Bryer's Island*, the utmost caution is requisite during thick weather, as vessels are frequently drawn amongst the islands and ledges to the southward of Manan, by the flood's setting directly on them: the most dangerous of these is the *Old Proprietor*, which at low water is uncovered for the space of half an acre. When the wind, therefore, veers at all to the southward, make the best of your way to St. John's Harbour, or you may secure an anchorage in Grand Passage, or St. Mary's Bay, as it seldom blows in that direction above eighteen hours without bringing on a fog.

The PREVAILING WINDS here, and on all the coasts of Nova Scotia, are from W.S.W. to S.W., nearly as steady as *trade winds*; excepting that, during the summer months, they are rather more southerly, accompanied with but little intermission by fog, which requires a north-westerly wind to disperse it. It is therefore recommended not to leave an anchorage without making arrangements for reaching another before dark, or the appearance of a fog coming on, which, with a S.W. wind, is so sudden, that you are unawares enveloped in it; nor to keep at sea during the night, if it can be avoided. Whenever the wind blows directly off the land, the fog is soon dispersed.

The TIDES are very rapid, but regular; and, although the wind against them alters the direction of the rippling, and sometimes makes it dangerous, it has little or no effect upon their courses. The flood sets from Cape Sable to the north-westward through the Seal Islands and Tuskets, at two or three knots in the hour; after which its rate increases to four or five knots; thence taking the direction of the shore, it flows past Cape St. Mary, and then N.N.W. toward Bryer's Island; it sets but slowly up the extensive Bay of St. Mary, which adds to its strength along the eastern shore; then, increasing its rapidity as the Bay contracts, it rushes in a bore into the Basin of Mines, and up Chignecto Bay.

Between Bryer's Island and the opposite northern coast, and for some distance up the Bay to the eastward, the first of the flood sets strongly to the northward (nearly north); so that it will be extremely dangerous for a vessel to run in the night, or thick weather, from any part of the southern to the northern coast, without making a large allowance for the set of the tide, and keeping the lead constantly going. H.M. sloop *Jaseur* was nearly ashore, having been set by this tide in a fog $8\frac{1}{2}$ miles in 3 hours and 10 minutes.

V.—THE COASTS OF THE UNITED STATES, FROM PASSAMAQUODDY TO BOSTON.

The most remarkable elevations of land between the Bay of Passamaquoddy and Cape Elizabeth, near Portland, are, the *Skuttock Hills*, *Mount Desert Hills*, and *Hills of Penobscot*. The Skuttock Hills are five in number, and, at a distance, appear round; they stand to the northward of the Port of Gouldsborough, and are readily distinguishable from any hills to the eastward. The Mount Desert Hills may, in clear weather, be seen from a distance of 15 to 20 leagues. The Penobscot Hills may be seen to the N.W. and N.N.W. over the Fox Islands. When within 4 or 5 leagues of the Mount Desert Hills, the Skuttock Hills will bear about N.N.E.

In sailing toward this coast, the lighthouse on Mount Desert Rock will be seen: this rock lies $7\frac{1}{2}$ leagues to the southward of Mount Desert Island, in latitude $43^{\circ} 59'$, and longitude $68^{\circ} 5'$: observe here to make proper allowance for the tide, &c. At Mount Desert Rock the stream of flood divides to run westward and eastward. With the Skuttock Hills about N.N.E., and within 4 or 5 leagues of those of Mount Desert, the tide of flood sets E.N.E., and the ebb W.S.W.; but at the distance of 9 or 10 leagues from the land, the current, in general, sets to the S.W., and more westward. From the Mount Desert Rocks to the Fox Islands the flood-stream sets W.S.W. along shore; but it still runs up to the northward into Blue Hill Sound, Isle Haute Bay, &c.

MACHIAS BAY.—The entrance of the BAY or PORT of MACHIAS bears N.W. $\frac{1}{4}$ N. [$N. 60^{\circ} W.$] 15 leagues from Bryer's Island Lighthouse; N.W. by W. $\frac{1}{4}$ W. [$W.$ by N.] 22 miles from the lighthouse on the Gannet Rock; and N.W. $\frac{1}{4}$ N. 9 miles from the lighthouses of the Machias Seal Isles.

Libby Light.—Directly fronting the Entrance of Machias, within the distance of of a league, are two little isles, called the *Libbes* or *Libby Isles*, on the southernmost of which is a stone lighthouse, 35 feet high, exhibiting a fixed light, elevated 52 feet

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MACHIAS BAY, ETC.

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above the level of the sea. A bell is rung in fog. At a league N.E. $\frac{1}{2}$ N. from this lighthouse is the S.W. end of *Cross Island*, which forms the eastern side of the entrance to the Bay.

On advancing towards Machias Bay from the Seal Isles, and steering N.W. $\frac{1}{2}$ W., you will gain sight of the *Libbee Isles Lighthouse*, which is to be left on the port side, rounding these isles, you thence proceed north into the Bay. On this course you will leave a large white rock, called the *Channel Rock*, on your port side; and unless bound upward into Machias Harbour, may haul to the westward. When you have advanced half a mile above this rock, bring a high round island, which is covered with trees, and is the proposed sight of a lighthouse; to bear north, when you may anchor in 4 or 5 fathoms, muddy bottom. If you mean to go up to the town of Machias, keep on a north course, until you have advanced above a high round island on your port hand, when you may steer W.N.W. or N.W. by W. for a point covered with birch-trees, and having a house on it. On the starboard hand there are flats and shoals. You may keep on the port after you pass this house, until the river opens to the northward, when you may run up to Cross River, and anchor in 4 fathoms.

LITTLE RIVER HARBOUR is about a league and a half E.N.E. from Cross Island. It may afford occasional shelter. The entrance bears N.W. by W. $\frac{1}{2}$ W., 10 miles from the S.W. Head of Grand Manan, and north $8\frac{1}{2}$ miles from the western Seal Island. It cannot be seen until you approach the northern shore; and the pilots say you should not run for it before it bears N.W. or N.N.W. There is a bluff point of rocks on the starboard hand, going in, and an island in the middle of the harbour, on which is a lighthouse, showing a *fixed light* varied by a *flash* every $1\frac{1}{2}$ minute. On going in, leave the island on your port side, and when you have passed it half a mile you may anchor in 4 or 5 fathoms, muddy bottom, and be protected from all winds. The land between this harbour and Quoddy Head trends N.E. by E. 4 leagues.

MACHIAS to GOULDSBORO'.—In proceeding from Machias towards Gouldsboro', you will pass numerous islands on the starboard hand, with many inlets and good harbours, but generally too intricate for strangers to attempt with safety. On quitting Machias Bay, you first pass the *Libbee Islands*, thence *Head Harbour Island*, the *Wass Islands*, &c. The course and distance from off the Libbee Islands to a berth off the Great Wass Island, are S.W. by W. 10 miles; and from the latter to the Little Manan Isle W. by S. 13 miles.

Moosepeak Head Light.—On Mistake Isle, three leagues S.W. $\frac{1}{2}$ W. from the Libbee island light, is a white tower, with *revolving light*, at 54 feet above the sea, and which shows every half-minute. It is, therefore, readily distinguished from that of the Libbee Isles to the N.E. and another on the Little Manan, at 14 miles to the S.W.

On Petit Manan, a small islet, is a *lighthouse of stone* 100 feet high, which exhibits a *fixed light*, at 125 feet above the level of the sea; a ledge, called *Moulton's Ledge*, and dry at low tides, lies W. by N. 4 miles from the lighthouse; a sunken ledge, with 7 feet of water on it, S.E. by E. 5 miles from the same; another of 12 feet, S.S.W. 4 miles. From the lighthouse the entrance of the Port of Gouldsboro' bears N.W. $\frac{1}{2}$ N. $\frac{1}{2}$ miles. At the entrance is an islet covered with trees on the eastern, and two on the western side. Within the entrance, the harbour is a mile wide, and you may anchor in from 4 to 6 fathoms, where you please. The course in is N.N.W. then N. $\frac{1}{2}$ W. a mile; and thence W. by N. to Gouldsboro'.

The *Skutumpah*, already mentioned, form a good mark for Gouldsboro', as they lie to the northward of the harbour. Hence, by bringing them in that direction, and steering on that course, you will, on approaching the harbour, see Little Manan Lighthouse, which is to be left on the port hand. The latter stands at about a league to the southward of the point between *Dyer's Bay* and *Person Hill Bay*. It is connected with the land by a rocky ledge or bar, which is partly uncovered with the ebb.

DYER'S BAY.—Immediately to the eastward of the entrance to Gouldsboro' is *Dyer's Bay*, which you may enter by giving Little Manan a berth of half a mile, leaving it on the starboard hand. If you bring the light to bear N.E., at three-quarters of a mile, a N. by W. course will carry you into the mouth of the bay, leaving a

large dry ledge on the port hand : when abreast of this ledge, which is bold-to, give it a berth of 15 or 16 fathoms, then steer N. $\frac{1}{2}$ E. about 4 miles, where you may anchor, safe from all winds, in 4 or 5 fathoms, muddy bottom.

PLEASANT BAY, or the Mouth of *Pleasant River*, is two leagues to the N.E. of Little Manan Lighthouse. Here you pass the islet called *Petit-manan*, and several dangerous ledges. For this place, therefore, as in all the other harbours of this coast, a pilot is indispensable.

From Petit Manan Lighthouse to a berth off the Great Wass Island, already noticed, the course and distance are E. by N. $13\frac{1}{2}$ miles; and from the latter to the Libbee Lighthouse, off Machias Bay, N.E. by E. 10 miles.

GOULDSBOROUGH to BLUE HILL BAY.—At two leagues without the harbour of Gouldsbrough. to the S.W. is Skuttock (or Soodie) Point, with its three islets, forming the west side of the entrance of FRENCHMAN'S BAY, or the N.E. harbour of Mount Desert. Next follow the *Cranberry Isles*, to the S.E. of the same island.

BAKER'S ISLAND, which is the outermost of the Cranberry Isles, is now distinguished by a lighthouse, exhibiting a *brilliant fixed light*, at 70 feet above the sea, which bears from that on the Little Manan W.S.W. 5 leagues.

To the S.S.W. of the Cranberry Isles are the *Duck Islands*, off the entrance of Blue Hill Bay, or the S.W. harbour of Mount Desert. To enter this harbour, leave the two Duck Islands on the starboard side, and *Long Island*, with a cluster of other islands, on the port. It is not safe for a stranger to run in during the night, as there is a great ledge, which is uncovered at half-tide, about one mile from the harbour. This is to be left on the starboard hand. There is also a long ledge on the port side, which extends half a mile off: there is, however, a good turning channel between. The S.W. passage is not fit for large vessels at low water; but, at high water, any one may enter, by keeping nearest to the starboard shore when sailing in. With the harbour open, you may steer N.W. or W.N.W., and anchor, when well up, in 5 or 6 fathoms, muddy bottom; where, with any wind, you will lie safely. Here, however, as in every other part hereabout, a pilot is required.

PENOBSCOT BAY AND RIVER.—This extensive bay is included between Point Naskeag and Sedgwick Point on the N.E., and White Head on the S.W.: the distance between these points is 10 leagues; and it therefore includes the Isle Haute, Deer Island, the Fox Islands, Isleborough or Long Island, and a multitude of small isles, rocks, and leges. Through the bay, to the mouth of the river of its name, the western channel is by the headland on the west, called *Owl's Head*: thence by Isleborough on the west, and Cape Rosier on the east, to Bagaduce Point or Castine River.

The *Eastern Entrance* is between Isle Haute on the west, and the smaller isles on the east, though a channel called *Long Reach*, formed by the shore of Sedgwick on one side and Deer Island on the other, until it unites with the main channel between Cape Rosier and Isleborough or Long Island. Above this, on the east, stands Fort Castine, near to which is the town of CASTINE, opposite to Penobscot.

The noble river which empties its water into the bay is the most considerable in the State of Maine, and has its sources about 130 miles above the inlet of Castine. The head of tide and navigation is, however, at Bangor, about 30 miles from the same: but vessels of thirty tons may approach within a mile of this place. At the entrance of the river is a depth of 10 fathoms.

Mount Desert Rock and Light lie off the Eastern entrance to Penobscot Bay. The lighthouse is a grey tower, 60 feet high, showing a bright fixed light at 75 feet, and has a bell to sound during fogs.

Whitehead Light.—From MOUNT DESERT ROCK to WHITE HEAD, having also a LIGHTHOUSE with a *fixed light*, the bearing and distance are W. by N. $\frac{1}{4}$ N. 15 leagues. White Head Island has been so called from the numerous white rocks about it. The light is brilliant and fixed, at 58 feet above the level of the sea; and though of a secondary class, is important to all vessels entering from the westward by the Muscle Ledges, on the western side of the entrance.

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By proceeding from Mount Desert Rock, on a W.N.W. course, you have the *Isle Haute* and *Fox Islands* on the starboard, the *Seal Rock*, *Matinicus Isles*, and *Green Islands*, on the port side, and thus arrive off the *Muscle Ledge Islands*, which lie to the north-eastward of the White Head lighthouse, on the western side of the bay. In pursuing this course, you will see, on the port side, the lighthouse to the southward of the Matinicus Isles.

The *Matinicus Rock Lights* are on the Wooden Ball Rock, 4 miles southward of the Matinicus Islands. There are two fixed lights visible 15 miles off, and when in one bearing N.N.W. and S.S.E.

OWL'S HEAD LIGHT.—On the western side of the bay, at seven miles above White Head lighthouse, is *Owl's Head*, having also a lighthouse, with brilliant fixed light, at 100 feet above the level of the sea. *Owl's Head* forms a cove on its northern side, in which a vessel may take occasional shelter, as it lies open to the wind at E. by N. and E.N.E. The directions for sailing in are, to bring a rocky point, which will be on the starboard side, to bear N.E., and a ledge of rocks that lie without that point E.N.E., and anchor in 4 fathoms, muddy bottom.

Hereabout the tide of flood sets to the north-westward, and the tide of ebb S.W. through the Muscle Ledges.

The fairway course to Owl's Head is N.W. by N. Having advanced to this point, you may bear away for either side of Isleborough or Long Island; proceeding, according to Chart, past Belfast Bay and Brigadier Island, keeping the port shore on board. When you pass Brigadier Island for Old Fort Point, (*Fort Pownall*), observe, before you come to it, that an extensive ledge of rocks lies about three-quarters of a mile to the E.S.E. of it, which is uncovered at half-tide. These rocks are readily discoverable, when the wind blows, by the breakers. You may pass within a cable's length of Fort Point in smooth water. A fixed light is shown from Fort Point.

Besides the lighthouses above mentioned, for the navigation of the Penobscot, there is now a small harbour-light on *Brown's Head*, which forms the western side of the Fox Island passage, with a fixed light at a short distance from shore, and 80 feet above high-water mark.

On *Dice's Island*, upon the eastern side of the river, at the entrance of Castine Harbour, is another lighthouse, with a fixed light, at 116 feet; and very useful to vessels going up or down the river.

On Marshall's Point, at the entrance of Herring Gut, to the S.W. of the Penobscot, and N.W. of Matinicus Isle, there is also a small fixed light, at 30 feet.

If bound up the river, from Old Fort Point, with the wind ahead, and an ebb tide, you may make a good harbour in the East River, at about a league E.N.E. from that point. The entrance of this river is on the south side of *Orphan Island*; here you may lie safe from all winds, and anchor in 8 or 7 fathoms, good holding ground. You leave Orphan Island, and several rocks which are above water, on the port hand. If requisite you may anchor to the N.W. of the island, on the starboard hand, before you pass through; but, with the wind and tide favourable, you may proceed up to Marsh Bay, keeping toward the port shore. *Marsh Bay* is a league and a half above Orphan Island. When passing it, keep nearly in the middle of the river, and you will have neither rocks nor shoals until you arrive at the falls.

CASTINE.—To SAIL UP TO CASTINE, &c. by the S.E. and eastern side of Isleborough, the course is N.E. by N., keeping the island on the port hand. To go into the harbour, by Bagaduce Point, so soon as the entrance bears E.N.E., run in on that direction, keeping the middle of the channel on your starboard side until you pass the first island, giving that island a berth of half a mile; then haul to the southward, until the island bears W.S.W., when you may anchor in 8 or 10 fathoms, muddy bottom, and lie safely from all winds. The tide here rises, on the full and change, 10 or 11 feet, and flows at 10^h 45^m.

To ENTER PENOBSCOT BAY, from the S.W.—On approaching White Head, or its lighthouse, be careful not to haul in for it until it bears N.E., as you will thus avoid the ledges of rocks lying without the head. Within these ledges, at about a

pistol-shot from shore, there is a safe passage. In passing the head, to the eastward, you will see a good harbour, on the port hand, called *Seal Harbour*, and in which a vessel may lie safely with any wind. In going into this harbour, give the port shore a berth, in order to avoid a sunken ledge, extending about two-thirds over, and which breaks with any sea, excepting at high water.

Vessels of 60 or 70 tons may double close around the head of the light, and anchor right abreast of the river in the harbour. Those taken with calm and ebb-tide may anchor anywhere off the light in from 12 to 20 fathoms. If the wind takes you at N.E. and ebb-tide, so that you cannot get into *Seal Harbour*, you may run into *Tennant Harbour*, which bears W. by S. from White Head, about 4 miles distant. A revolving light, visible every minute, is shown from the N.E. side of the S. Island of Tennant Harbour.

The **Fox Islands** divide Penobscot Bay from Isle Haute Bay. There is a channel from one to the other round the north side of the islands.

On *Brown's Head* on the North Fox Island, and at the western entrance of the Passage, is a small lighthouse, showing a fixed light at 20 feet above the ground, and 80 above the level of the sea.

"When bound from the westward, and intend going through *Fox Island Passage*, bring Owl's Head Light to bear W. by S. and steer E. by N. from Owl's Head, 4 leagues distant. If you have a head wind, and are obliged to go into the mouth of the bay, be careful of a ledge of rocks that bears from Crabtree Point S.W. or S.W. by S., called *Crabtree Ledge*, distant 4 or 5 miles. This passage has rocks on both sides: *Crabtree Point* is on the port hand. It is on the northern Fox Island, and there is a long point of rocks near one league to the S.W. of it. This passage is not fit to enter in the night, unless you are well acquainted with it. When you get in, bring Crabtree Point to bear W.S.W. and steer E.N.E. about 3 leagues, which will bring you to *Young's Narrow*. In steering this course, you will make two large bare rocks, called the *Sugarloaves*, which you may go on either side of, but to follow your directions you must leave them on your starboard hand, and also be careful of a ledge that lies about North, one-third of a mile from them. The entrance to Young's Point is narrow at low water, off which lies a ledge of rocks which are covered at high water. There is also a quantity of sunken rocks at the port hand, near a mile to the N.N.W., which lie off the *Dumplings*. The *Dumplings* are three islands, which you leave on your starboard hand. Your course in this passage is E.N.E. and W.N.W., keeping your starboard hand on board. When you pass this point on your starboard hand, you must keep your starboard hand on board, and steer E.S.E. about 2 miles, when you will make *Deep Cove* on your starboard hand, which lies to the eastward of a very high bluff of rocks. If you have neither anchors nor cables, you may run into this cove, or secure your vessel with the main or fore sheet, or come to anchor in 7 fathoms off the said cove.

There the flood meets, one from the W.N.W. and the other from the E.N.E., which makes an eddy against this cove and highland; here you may ride safe with any wind.

When you leave this place, and are bound to the eastward, you steer E.S.E., and keep your starboard hand on board till you come up to a clear spot of land where the trees have been cut off. As soon as this spot bears W.S.W. you steer E.N.E. for the middle narrows. When you draw near the narrows, you will see two large white rocks in the middle of the passage, unless at high water, at which time they are covered about an hour, but may be seen at all other times of tide. You may go on either side, but the deepest water is to the southward of them. Continue your course E.N.E. about one league, when you must keep your starboard hand on board, as there are several sunken rocks and ledges on your port hand, which are covered at high water. You will make the eastern narrows on your starboard hand, and as soon as you bring it to bear S.S.E., you may run through, where you will have a fine harbour, which is safe to ride in with all winds except an E.N.E., but you may remain on the west passage with the wind at E.N.E., or anchor at the northward of a bare island that you will see on your starboard hand as you go back to the westward.

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"When you pass the eastern passage of *Fox Island*, you may steer E.N.E. about 4 miles, which course will carry you into a large bay that lies between *Isle Haute* and *Fox Island*. This bay lies North and South, and about 4 leagues East and West, and is called *Isle Haute Bay*.

"When you get into this bay from the above-mentioned passage, and are bound to the eastward, you may steer E.S.E. 6 leagues, which course will carry you to the southward of *Isle Haute*."—(*American Coast Pilot*.)

Lights.—**SADDLEBACK LEDGE**, in the entrance of *Isle-au-Haut Bay*, has a *fixed bright light* at 51 feet. On *Deer Island*, on the eastern side of the bay, is a fixed light. On *Eagle Island*, at the head of the bay, is another fixed light; and one was proposed for *Widow Island*. There are some other small lights, as shown in the list at the beginning of this Work.

Manheigin Light.—In the offing on the west, without the entrance of *Penobscot Bay*, is an islet more than a mile long, named *Manheigin*, and from which *White Head lighthouse* bears nearly N.E., 5 leagues distant. It is the southernmost isle of this coast, and is in latitude $43^{\circ} 46'$, longitude $60^{\circ} 18'$. Upon *Manheigin* or *Manana* there is a lighthouse, showing a revolving light at 175 feet above the level of the sea, visible every minute. A bell is sounded during fogs. A N.E. $\frac{1}{4}$ E. course for 15 miles leads hence to the light on *White Head*. From the *High Light* on *Cape Cod*, *Manheigin Isle* bears N.E. by N. $36\frac{1}{4}$ leagues.

GEORGE'S RIVER, &c.—For this river, the first to the westward of the *Bay of Penobscot*, particular directions have been published by the *American coasters*, but they are insufficient for a stranger without the aid of a pilot. The same remark applies to other harbours upon this intricate coast; for, in numerous instances, for want of description, the instructions embarrass rather than direct, and there is no chart which can be depended on. *Franklin's Isle* is an islet about a league to the W.S.W. from the mouth of *George's River*; the lighthouse stands on the north side of it, and is to be left, when sailing for the river, on the right or starboard side. An E.N.E. course leads thence to *Pleasant Point*, on the north side of the entrance. The light is fixed, and at 59 feet above the level of the sea.

Pennaquid Point and Light, on the eastern point of *John's* or *Bristol Bay*, lying at the distance of 4 leagues N.W. by W. from *Manheigin Island*, is now distinguished by a lighthouse, having a fixed light at 75 feet above the sea. Upon *Burnt Island*, near *Booth Bay*, at the distance of two leagues W.S.W. $\frac{1}{4}$ W. from *Pennaquid Point*, there is also a fixed harbour light, immediately off the point which separates *Damariscotty* from *Booth Bay* and the harbour of *Townsend*.

KENNEBEC RIVER, SHEEPSKOT RIVER, &c.—The lighthouse on *Segwine Isle*, off the mouth of the *Kennebec*, has been already mentioned. Its lantern is 200 feet above the level of the sea, and contains a fixed light of the first class, which may be seen 8 or 9 leagues off. The position assigned to it is, latitude $43^{\circ} 42'$, longitude $69^{\circ} 45'$. *Pond Island Light*, in the entrance of *Kennebec River*, bears N. $\frac{1}{4}$ E. [*N. $\frac{1}{4}$ W.*] from *Segwine light*, and $1\frac{1}{2}$ miles from *Segwine Island*. To enter the *Kennebec River* you have now only to steer directly for *Pond Island light*, (a *fixed light*,) bearing N.N.E., which leads from the western side of *Segwine* directly to the river. *Pond Island* may be passed on either side. A bell is sounded from the lighthouse during fogs.

On sailing in, you must have regard to the tide; for the ebb sets out very strongly South, directly on *Segwine Island*. If you have a good breeze of wind, you cannot stem the tide, as it sets at the rate of 4 or 5 miles an hour. In going into the harbour you will leave a large island covered with spruce trees on your starboard hand, and several other islands on the port. When you get to the northward of the first island, if the tide be ebbing, you must steer for the *Two Sugar-Loaves*: these are two high rocks, which appear white, and resemble the figure indicated by their name: when you pass to the westward of the *Sugar-Loaves* you may steer North, and here take a pilot for the river, if bound upwards, as it should not be attempted without one. The port of *BATH* is at about 7 leagues up from *Segwine lighthouse*.

IF BOUND TO SHEEPCOT RIVER, from the westward, and you make the Island of Segwine, you may leave that island on the starboard side, giving it a berth of half a mile. When you pass it to the eastward, you must bring it to bear S.W., and steer N.E. and N.E. by N. 3 leagues, which will bring you to *Ebenicook Harbour*, on the eastern side of the river, which is fronted by several islets; of this place the entrance is narrow, but it makes like a basin when you get into it. The entrance lies E. by N. You cannot get in with a N.E. or easterly wind, but must have the wind South or westerly. After you get into the harbour, haul up N.E. or N.E. by N., as there are several sunken rocks, on the starboard hand, as you go in. There is anchorage here in 4 fathoms, muddy bottom, safe from all winds.

If bound up Sheepscoot River in a large vessel, on coming from the westward, you must go to the southward of Segwine, steering about N.E. or N.E. by E., one league; and when the river bears North, or North a little westerly, you may run North, and keep the starboard hand best on board. There are many rocks and ledges, some above, and some under water, lying to the north-eastward of Segwine; when you get up as high as Ebenicook, you leave the two *Marks Islands* on your port, keeping your course North, a little easterly. Here it is requisite to have a pilot. The port of WISCASSET is about 5 leagues up from the entrance of the River.

TOWNSEND HARBOUR, OR BOOTH BAY, is the inlet next eastward of Sheepscoot River, and which may be known by the lighthouse on *Burnt Island*, with its *fixed light*. Its entrance lies between an islet called the *Cuckold* on one side, and reefs called *Bantam Ledges* with *Damiscove Isle* on the other, the distance between which is $2\frac{1}{2}$ miles. With Burnt Island N. by E. you may run for it without danger; and thence, with assistance, proceed to the harbour of *Townsend*.

The "American Coast Pilot" says, "In coming from the westward, leave Segwine Island on your port hand, giving it a berth of about half a mile; then steer N.E. by E., 3 leagues, when you will, if clear weather, open Townsend light on Burnt Island, bearing about N.N.E., but still continue your N.E. by E. course until Burnt Island bears N. by E.; then stand for it, continuing N. by E. and leaving it on the starboard hand till up the harbour. At about three-quarters of a mile N.N.E. from the light there is a small bold island, called *Mouse Island*, which you leave on your starboard hand; after passing it you haul up N.E. for the Eastern Harbour, or continue your course N. by E. till you get the Western Harbour to bear W.N.W., when you may run in till Burnt Island is shut in by the land; or you may anchor anywhere within Mouse Island, as neither rocks nor shoals lie off from the island.

In coming for Townsend, from the Eastward, bring Manheigin Light to bear E.S.E. and steer W.N.W. about 13 miles; which course and distance will lead you into the passage between, and to the northward of, the outer islands and the main. In steering thus you will make Burnt Island light, bearing N.W. by W.; then steer W. by N. until you get that light to bear N.W. Then haul up for it, keeping it on your port bow until up with it. You now steer N. by E. and follow the directions given above.

KENNEBEC RIVER TO CAPE ELIZABETH AND PORTLAND.—From the lighthouse on *Manheigin Island* the elevated Light on Segwine Island bears W. $\frac{1}{2}$ N., $7\frac{1}{2}$ leagues. From Segwine Lighthouse Cape Small Point and Fowler's Rock bear W. by N., 3 miles. From the same lighthouse that of Portland bears W. $\frac{1}{2}$ S. 20 miles; the two lighthouses on Cape Elizabeth W.S.W. $\frac{1}{2}$ W. 20 miles; and Alden's Rock or Ledge S.W. by W. $\frac{1}{2}$ W. 18 miles.

Cape Elizabeth Lights, stand at 300 yards from each other, and at about the same distance from the sea-shore. The lanterns are 140 feet above the level of the sea at high water. The N.E. light is a *fixed light*, and the S.W. a *revolving*, showing a brilliant light every minute. The two lights bear from each other S.W. $\frac{1}{2}$ W. and N.E. $\frac{1}{2}$ E.

To the westward of Cape Elizabeth, near Richmond Isle, is a windmill, which is the first windmill seen in coming in from the eastward.

NEW MEADOW'S RIVER.—At N.E. by E. $\frac{1}{2}$ E. 6 leagues from Cape Elizabeth, and half a league West from Cape Small, is the mouth of *New Meadow's River*.

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a large inlet, which presents ample shelter and safety, during an adverse wind, to those bound *eastward*. Of this river the "American Coast Pilot" says, "If you should fall into it with the wind at S.E. or S.S.E. when bound to the eastward, you may here make a good harbour. On standing in, to the northward, you will have a large round island on your starboard hand, covered with spruce-trees, together with two large rocks, one called the *Brown Cow*, and the other the *White Bull*, which are at some distance from each other.

"You must leave the *Brown Cow* on your starboard, and the *White Bull* on your port hand; toward the latter you may go within a cable's length, and when you have passed it, must stand over for *Horse Island*, have a house on it, and lying on the starboard side; to this you may go within a quarter of a mile. To the westward of *Horse Island* is a large rock, covered at high water, but bare at half-tide; you may go on either side of it when it is in sight, but the widest passage is to the eastward. When you have passed this rock, steer N. by W. or N.N.W., which course will carry you up to a large island, called *Bear Island*, which is covered with spruce and birch trees. When you have passed this island to about one-quarter of a mile, you may haul in for the starboard shore, and anchor in 5 or 6 fathoms of water. This is the best place for anchoring with the wind at S.S.E. or East; but be cautious of a ledge of rocks, extending northward from the island to about half a mile off.

"If you have lost anchors and cables, there is a large cove, on the starboard hand, bearing about North, and 2 miles from *Bear Island*, and which is sufficient to contain thirty or forty sail of vessels. It is land-locked around, so that no wind can damage a vessel after she gets into it."

HARPSWELL SOUND.—On the *Little Mark Island*, off the west side of the entrance of *Harpwell Sound*, which is about half-way between the mouth of the Kennebec and Portland, there is a *stone column*, erected as a land-mark for vessels running into, or passing either Harpswell or Broad Sound. It is also a conspicuous mark, when standing in from sea, in any direction between Cape Elizabeth and Cape Small Point. The islet on which it stands is one quarter of a mile long, without trees, and elevated 40 feet above the level of the sea. The column, which is placed near its centre, is 50 feet high, painted perpendicularly in black and white stripes, except near the top, which is black on each side. From off the column the course up Harpswell Sound is N.E. $\frac{1}{2}$ N.

PORTLAND.—At N. $\frac{1}{2}$ E. 4 miles from Cape Elizabeth, is a *Lighthouse* on PORTLAND POINT, built of stone, and the total height of which is 85 feet above the sea. Its light is *fixed*. Besides this there is a *fixed light* on the south head of the harbour, and a *red light* on the N.E. part of the *breakwater*. The sound or harbour of Portland is buoyed, and the following directions are to be observed when sailing in.

In coming from the south-westward, when within half a mile of Cape Elizabeth, the *red buoy* on *Broad Cove Rock* may be seen. This buoy bears N.N.E. from the pitch of the cape, distant $1\frac{1}{2}$ mile, and lies in 24 feet of water. When advanced to it, leave it to the port, at half a cable's length, and steer N. by E. $\frac{1}{2}$ E. one mile, which will carry you up to the *white buoy* on *Trundy's Reef*, lying in 16 feet of water; give this the same berth as the former. You may run N. by W. $\frac{1}{2}$ W. 3 miles, for Portland Lighthouse; and when up with the point upon which the lighthouse stands, give it a small berth, and steer N. by W., leaving *Bang's Island* on the starboard side, till you come to House Island, the S.W. point of which bears North from the lighthouse, distant nearly 2 miles. Before you are up with this island, the *black buoy* on *Spring Point Ledge* may be seen; it bears N.W. by W. from the S.W. part of House Island, distant half a mile, and lies in 14 feet of water. When up with this buoy, you open the town; and giving it a small berth, you may haul up N.W. for the *white buoy* on *Stanford's Ledge*; the latter lies also in 14 feet of water, and is one mile distant from Spring Point Ledge Buoy. Giving the white buoy a small berth, you may keep midway up the river, and safely anchor off the town at pleasure.

It is to be observed, that all the buoys above mentioned are to be left on the port hand when coming in. The depths above mentioned are at low water. Besides

the above, there are also two small buoys lying upon two ledges in *White Head Passage*, at the N.E. part of *Bang's Island*: this passage is narrow, and seldom used by large vessels. By keeping midway between the two buoys, the *red* on the star-board, and the *white* on the port, when going in, you will not have less than 5 fathoms of water. After passing the buoys, keep midway in the passage, and run to the distance of a mile, which will carry you into *Ship Channel*, the same as if had passed the lighthouse.

CAPE ELIZABETH is $4\frac{1}{2}$ miles south of *Bang's Island*, and ledge called the *Tenfoot Ledge*, or *Alden's Rock*, bears S.E. by E. $2\frac{1}{2}$ miles from the cape, and about 7 miles S.S.E. $\frac{1}{2}$ E. from the lighthouse. It has only 9 or 10 feet of water over it; and in rough weather, the sea breaks on it.

The various intricate channels of CASCO BAY and QUAHEAG BAY, between *Portland* and *Kennebec River*, including *Hussey's Sound*, *New Meadow's River*, &c., are too devious and too dangerous to be attempted without a pilot. The same remark applies to all this navigation which we have made upon *George's River*, &c., in page 213.

Wood Island Light.—From Cape Elizabeth to Wood Island, on the south side of Saco Bay, the course and distance are about S.W. $8\frac{1}{2}$ miles; and thence to Cape Porpoise, S.W. 9 miles. The harbours formed by Wood Island and Cape Porpoise are to be attempted only with a pilot, and are very small. Wood Island is high, woody, and even: on it is a LIGHTHOUSE, showing a revolving red light, 62 feet above the sea, and may be seen 4 leagues off.

KENNEBUNK lies to the S.W. of Cape Porpoise. At the mouth of the harbour are two piers, lying E. and W. of the channel, about 300 feet in the direction of the bar, to below low water mark; on the western pier is a flagstaff or beacon. Three-quarters of a mile due South from the piers, lies a ledge, called the *Fishing Rocks*; between this and the piers is the anchorage. Keep well to the eastward of this ledge on approaching. There is a passage to the westward, but it must not be attempted without a pilot. On the *Bar* there is only 2 or 3 feet at low water, increasing to 10 and 12 feet with high water of common tides, or 12 and 14, at times, with springs. H. W., F. and C., XI^h 15^m.

The Course and Distance from Cape Porpoise to Cape Neddock, are S.W. $\frac{1}{2}$ S. 12 $\frac{1}{2}$ miles; between these points are the Bay and Town of WELLS; and inland, between Wells and Cape Neddock, *Agamenticus Hills* may be seen. At three-quarters of a mile to the northward of Cape Neddock, is the *Cape Harbour*, which is a very small one.

The White Hills.—The White Hills are an important land-mark to those approaching the coasts, as they may be seen many leagues off at sea, like a bright cloud above the horizon, and when no other land is in sight. They are the highest lands in New Hampshire. Mount Washington, the highest of them, has been given as 6234 feet in height; and the inferior peaks as varying from 5238 to 4356 feet. From Portland, the centre bears N.W. about 19 leagues, and from Wood Island N.W. by N. (by compass) at nearly the same distance.

These hills have been seen in latitude $43^{\circ} 10'$, at nearly 15 leagues from Cape Elizabeth, where bottom was found at 80 fathoms, muddy ground. If from this spot you steer W.N.W. you will, in that direction, make *Bonabeg or Wells Hills*, and will also descry *Agamenticus Hills*, more to the southward, within *Bald Head*. The latter, at 6 or 7 leagues off, appear to be three in number, the smallest to the eastward.

It is proper to remind those coming from the eastward, that *Cashe's Ledge*, here-after described, lies in latitude $42^{\circ} 56'$, and longitude $68^{\circ} 51'$, or thereabout; and that the *Boon Island Ledges* lie in $43^{\circ} 6'$ and $43^{\circ} 7'$, at $2\frac{1}{2}$ leagues from the main; but the latter are marked by a red boat beacon. In the Offing of the Coasts of New Hampshire and Massachusetts, where there are 70 and 75 fathoms of water, muddy bottom, a strong current is commonly found setting to the S.W.

Boon Island and Light.—A small island, nearly surrounded by rocks, which lies $5\frac{1}{2}$ miles S.E. from Cape Neddock, and 10 miles E. by N. from the entrance of Ports-

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mouth Harbour. It has a stone lighthouse, on the western part. The light, which is fixed, is 133 feet above the level of the sea, and may be seen from the distance of 6 leagues. A ledge of rocks lies at a mile north from the island, of which beware. *Boon Island Ledge*, marked by the red boat, is about 200 feet in diameter, and is bare at low tides, and breaks at all times with a heavy sea. It bears from the island E. $\frac{1}{2}$ S. $2\frac{1}{2}$ miles distant. There is a passage between it and the island, but it must not be attempted by strangers, on account of the reef extending three-quarters of a mile from the S.E. point of the island.

PORTSMOUTH HARBOUR, the chief port of New Hampshire, is also the boundary of the State of Maine. The entrance of the port is in latitude $43^{\circ} 5'$, and longitude $70^{\circ} 43'$, is formed on the west by an island named *Newcastle Island*, and on the east by the main land, terminating in *Garish's Point*. A shelf stretches out and around *Garish's Point* to the distance of a mile, and has on its edge two islets named *Wood Isle* and *White Isle*; these are commenced by a reef, covered at half-tide, and called the *Whale's Back*. On the N.E. point of *Newcastle Island*, a fixed light is exhibited at 90 feet above the sea, and the *Whale's Back* is another, the building of which is 40 feet high, and the light, also fixed, is at 58 feet above the level of the sea. To the S.S.E. of the *Whale's Back* light, half a mile off, are the *Kite Rocks*, having 12 feet water on them, and are marked by a white buoy; and S. by W. one quarter of a mile from the light on *Newcastle Island* is *Stillman's Rock*, also under water, and marked by a black buoy. In beating into the harbour, by giving these buoys a good berth, there will be no danger.

Off the entrance of *Portsmouth Harbour*, at three miles south from the lighthouse on *Newcastle Island*, and one mile from the nearest shore, is a small reef, of 2 and 3 fathoms, called the *Gun-boat Shoal*: and at five miles S.E. by S. is the group of islets and rocks called the ISLES OF SHOALS, which now have a good lighthouse.

In sailing from the S.W. for PORTSMOUTH, having made the Lighthouses of Cape Anne, in latitude $42^{\circ} 38'$, and being to the eastward of the *Salvages*, which lie to the northward of that cape, bring the Salvages to bear S. by E. and steer N. by W. or N. $\frac{1}{2}$ W., on which course you will make the Isles of Shoals, and may thence take a new departure. Bring the Lighthouse on *White Isle* S.S.E., and then run N.N.W.; but should the wind come to the northward, and you are obliged to turn into *Portsmouth*, take care to avoid the *Gun-boat Reef*, and stand to the westward no further than to bring *Portsmouth Light* to bear N. by W., until you arrive within *Odiornes' Point*, on the west side of the entrance; and, when standing to the eastward, you should tack so soon as the lighthouse on *New Castle Island* bears N.N.W. until you get within *Wood Island*, on the East side. Be cautious of approaching *Odiornes' Point*, when coming in from the south-westward, as sunken rocks lie off it to more than half a mile, which do not appear with off-shore winds.

At the Entrance of the Harbour the Tide flows, on full and change days, at $11\frac{1}{2}$ h. Springs rise from 10 to 12 feet; neaps 6 to 7 feet.

The ISLES OF SHOALS, with the reefs about them, occupy an extent of 3 miles, from N.N.E. to S.S.W. There are seven isles, the names of which, from North to South, are *Duck's Isle*, *Hog*, *Smutty Nose*, *Cedar*, *Star*, *Londoner's*, and *White Islands*.

WHITE ISLAND is a small rocky spot, bold-to, and clear on the S.E. only, near which is a depth of 20 fathoms.

Light.—On the south point of it is the lighthouse, in lat. $42^{\circ} 58'$, long. $70^{\circ} 38'$, the light of which is elevated 87 feet above the level of the sea. It is revolving, and visible every half-minute to the distance of 16 miles.

A bell of 800 lb. weight is suspended to the tower of the lighthouse, which will be kept tolling by machinery at the rate of about ten strokes in a minute, by night and day, whenever, from fog, or any other cause, the light or lighthouse cannot be seen at least four miles distant: at which distance, it is calculated, the bell may be heard in moderate weather.

LONDONER'S ISLAND lies nearly half a mile to the northward of *White Island*; it

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is less than a quarter of a mile in extent; high at each end; but at high tides the middle is sometimes covered. This isle is nearly surrounded with rocks, some of which are always above water.

STAR ISLAND, distinguished by a conspicuous meeting-house, near the centre of it, lies about one-third of a mile to the eastward of the *Londoner*, and is a quarter of a mile in length from N.W. to S.E. The north end is covered with buildings. The meeting-house stands on an eminence, a little to the northward of the middle of the island. Off the south end of this island, at about three-quarters of a mile S.S.E. $\frac{1}{2}$ E., lies a rock, called *Anderson's Rock*, which is uncovered at half-tide, and should, therefore, have a good berth when passing. There is also a rock between this island and *Londoner's Island*, bearing from the Meeting-house N.W. by W. $\frac{1}{2}$ W. distant one-third of a mile.

CEDAR ISLE is an islet which lies to the eastward of Star Island, at the distance of a cable's length. Half a mile from the S.E. end of this isle is a reef, uncovered at half-tide, which bears E.S.E. $\frac{1}{2}$ E. from the Meeting-house on Star Island.

SMUTTY NOSE ISLAND is nearly a mile in length from east to west, and half a cable's length broad. It may be known by a windmill on its north side. At the west end is a harbour, called *Haley's Cove*, where fifteen or twenty small vessels may lie safely in all winds. There are several buildings near this place. Between the island and Hog Island, which lies to the northward, there is sufficient depth of water for any vessel, by keeping nearly in mid-channel; but there are reefs on each side. The east end of Smutty Nose Island bears from the Meeting-house E.N.E. nearly half a mile.

DUCK ISLAND is the northernmost of the Isles of Shoals. It is low and rocky. Some parts are covered at high water, with rocks projecting in every direction, and to the distance of half a mile. It is the most dangerous of the Isles of Shoals, and must be cautiously avoided. Its west end bears from the Meeting-house nearly N. by E. $\frac{1}{2}$ E. a mile and three-quarters distant.

HAMPTON HARBOUR lies about 5 miles N. $\frac{1}{2}$ E. from the entrance of Newbury Port; between, at the distance of 3 miles N. by E. $\frac{1}{2}$ E. from the lights on Plum Island, lies a dangerous rock, having only $3\frac{1}{2}$ feet of water over it; and, at some distance to the eastward of Hampton Harbour are several sunken rocks. Upon Plum Island an establishment was formed many years since similar to that on Sable Island, for aiding shipwrecked mariners.

PLUM ISLAND is situated between the mouth of *Merrimack River* on the north, and *Ipswich Bay* on the south, and is separated from the main land by a narrow sound. Its length is about $8\frac{1}{2}$ miles, and its width, from the sea to the main, not more than 500 paces. On the north end of the island are two lighthouses, which are constantly lighted at night, and so constructed as to be easily moved,—a circumstance requisite from the frequent shifting of the bar at the mouth of *Newbury Port Harbour*.

NEWBURY PORT, &c.—The Entrance of Newbury Port, or Newbury Harbour, is 5 leagues S.S.W. from that of Portsmouth, in latitude $42^{\circ} 48'$. The entrance is distinguished by two lighthouses on the south side, which have *fixed* lights, at 37 feet above the level of the sea, and stand on the north end of *Plum Island*, at one-third of a mile from each other. If advancing toward this place from Cape Anne, and being at about two miles to the northward of the Salvages, before mentioned, bring the latter to bear S.E. and steer N.W. $4\frac{1}{2}$ leagues, which will lead to Newbury Bar.

If you advance no further westward than for the lights on Plum Island to bear S.W., no danger is to be apprehended from either of the rocks above mentioned; but that course to the bar would lead to the north breaker: you must, therefore, bring the lights to bear W. by S., and anchor in 11 or 12 fathoms of water, should the tide not permit you to sail in. No vessel going in should approach the south breaker nearer than in 7 fathoms; or nearer the north breaker, in coming from the eastward, than 9 fathoms. Pilots are always ready when the weather will permit them to go out; but, if they cannot get out, you must keep the two lights in a line, and run for them until within a cable's length of the eastern light, when you must haul to the westward, and anchor between the two lights, in 4 fathoms; or you may bring the

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western lighthouse S.E. by S., and run N.W. by N. for Salisbury Point: but, so soon as you make that point, you must haul up to N.W., which will carry you clear of *Badger's Black Rocks* and the *Hump Sands*. A vessel that draws ten feet of water may come in at two-thirds flood. They should always observe to keep to the windward of the bar, unless the wind should be fair. If the sea is so great as to prevent the pilot's getting over, a signal will be made by him, when you must run direct for his boat, keeping the lights in range, which will carry you safe over.

The *Hump Sands* lie S.W. from Salisbury Point, which renders the channel very narrow and difficult to strangers. The *Badger Rocks* bear N.W. $\frac{1}{2}$ N. from the light-houses, distant half a mile: they are covered at two-thirds flood, and are to be left on the starboard hand, when going in. The *Black Rocks*, which are always dry, lie three-quarters of a mile N.W. from the light-houses: these, also, must be left on the starboard hand. The *Half-tide Rocks* bears W. by S. $\frac{1}{2}$ S. from the *Black Rocks*, at the distance of $1\frac{1}{2}$ mile; they are uncovered at half-tide, and have a buoy on them, which is to be left on the port side. Besides these are the *North Rocks*, which are seen only at very low tides, and which bear W. by S. from the *Black Rocks*, from which they are $1\frac{1}{2}$ mile distant; there is a buoy on them, which is to be left on the starboard hand; the channel lying between these and the *Half-tide Rocks*. When you pass the *Black Rocks*, a W. by S. $\frac{1}{2}$ S. course will bring you into the channel-way and good anchorage; and, even in night, or dark weather, when you judge yourself at about half a mile from the *Black Rocks*, you may anchor in safety.

It is always dangerous to run for this port in a gale of easterly wind.

IPSWICH.—At the south end of Plum Island is the mouth of the Ipswich River; a long bar extends for $1\frac{1}{2}$ mile E.S.E. from the S.W. point of Plum Island, which causes the channel to be along the south side. *Castle Neck* (sandy) lies on the opposite side of the channel; and on *Patches Beach*, at its western end, are two lights, at 40 feet, and 500 feet apart. The outer or eastern light is in lat. 40° 41' 2", long. 70° 46' 12". The town of Ipswich lies about 5 miles beyond the lights. It is a port of entry, on the *Agawam* or *Ipswich River*. The two lights on *Patches Beach* bear W. $\frac{1}{2}$ N. and E. $\frac{1}{2}$ S., 173 yards from each other; the western light is a fixed light, varied by a flash every $1\frac{1}{2}$ minute; the eastern is a fixed light. Keeping these in one, shows the passage over the bar, passing a little to the south of the buoy. Run in close to the beach, and follow it close up to, to avoid the northern spit on the starboard hand; run up round the first high bluff head, where will be found safe anchorage. There are 8 feet on the bar at low water. There is a canal which connects this with *Gloucester Harbour*, which has for its depth the whole flow of the tide, about 12 feet at springs, and 8 at neaps.

ANNIS SQUAM, in the south part of Ipswich Bay, is nearly 4 leagues S.S.E. from Newbury Port. It has a lighthouse, which stands on *Wigwam Point*, the eastern side of the entrance. It is a wooden building, of an octagonal form, about 40 feet high, and about 50 feet above the surface of the water at common high tides. It is painted white, and may be known by its inland situation, and being lower than any other lighthouse hereabout. The light is fixed. Latitude 42° 39' 43", longitude 70° 41' 12".

On the *Lobster Rocks* is a monument 17 feet high, and 12 feet diameter at the base; 7 feet is out of the water. It bears S.W. by S. $\frac{1}{2}$ S. a quarter of a mile from the lighthouse on *Wigwam Point*. There is a black buoy placed outside the bar, bearing N. $\frac{1}{2}$ E. $1\frac{1}{2}$ mile from the monument, and a white buoy on the *Harraden Rocks*, bearing N. by E. $\frac{1}{2}$ E. $1\frac{1}{2}$ mile from the same; and also a red buoy off the *Plum Rock Ledges* in 3 fathoms, N.N.E. $1\frac{1}{2}$ mile from the lighthouse.

Squam affords a safe harbour to those who know the bar, and is of great importance to those who get into Ipswich Bay during an easterly gale. On the bar are 16 or 17 feet at high water, and 6 feet at low water. High water, full and change, at 2^h.

The bar of this harbour bears from *Halbert Point* (the N.E. point of *Cape Ann*) about S.W. by W. $3\frac{1}{2}$ miles. In running from *Halbert Point*, be cautious of *Plum Cove Ledge*, which shows itself until nearly high water, and is marked with a red

buoy, bearing from Squam light N.N.E. a little northerly. Passing this ledge, you leave Hodgkin's Cove, which is deep, and a long point of land, called Davis's Neck, on your port hand. When up with this neck, haul S.W. or S.W. by W. for Squam Bar. In sailing into this harbour, bring the light to bear due South, when at the distance of a mile from it, and run directly for it, leaving the *white* buoy on *Harra-den's Rock* on your port, and the *black* buoy on the spit on your starboard hand. Continue your course till within fifty yards of the light, then haul up S.S.W. for the Bar Rock, leaving the lighthouse to port. The bar, which runs nearly N.E. and S.W., leaves the river about 90 fathoms broad opposite the light on the starboard. In running up, as here directed, you will leave the monument on the *Lobster Rocks* (which lie 200 yards S. by W. from the lighthouse, and dry at low water) on the port hand. When up with the Bar Rocks, which lie on the starboard hand, and are dry till nearly high water, steer S. by E. $\frac{1}{2}$ E. until you open the houses, and you may anchor in from $3\frac{1}{2}$ to 5 fathoms, clear sandy bottom: or run your vessel on shore, on the starboard side, should you happen to be without anchors and cables.

When the weather is so boisterous that boats cannot get off, a flag is hoisted on shore, near the lighthouse, so soon as there is a sufficient depth for vessels upon the bar, which may then run as above directed.

The *Salvages*, before mentioned, bear from Halbert Point E.S.E. $2\frac{1}{2}$ miles distant; and from Cape Ann lighthouses, which stand on Thatcher's Island, N. by E. 3 miles. Between them and Cape Ann there is a passage.

CASHE'S LEDGE.—From Cape Sable of Nova Scotia to Cape Cod, the course and distance are W. $\frac{1}{2}$ S. [*W.S.W.*] about 72 leagues: in steering this course, you will pass about 10 leagues to the southward of *Cashe's Ledge*, of which the following is a description, communicated by the Master of His Majesty's sloop *Beaver*.

"This bank extends from North to South 7 leagues, and from East to West 2 leagues. In the middle of the bank is the shoal mentioned: its length and breadth are about half a mile. It is rocky, and its soundings very irregular, having from 10 to 4 fathoms of water in the length of a boat. You will have 17 fathoms of water within a cable's length of it, deepening as you stand from it, to 90 fathoms. As you approach the bank, you sound in from 60 to 35 fathoms, brown sand, with black stones and broken shells; then, in 30 fathoms, it grows rocky. The current on the ledge is exceedingly rapid and unaccountable. If the wind blows strongly, any vessel would founder, although she should not strike on it. The situation of the ledge is latitude $42^{\circ} 56'$, longitude $68^{\circ} 52'$. On the shoalest part are only 24 feet at low water."

It has since been said, by Mr. Backhouse, Master of His Majesty's ship *Argonaut*, that *Cashe's Bank* extends North and South 7 leagues; the shoalest part being near the centre, extending a quarter of a mile each way. The ledge, he observes, bears from Cape Ann, E. $\frac{1}{2}$ S. 26 leagues, the shoalest part being in the latitude above mentioned. "You will have," he adds, "on this part from 10 to 4 fathoms, very irregular soundings, all rocky bottom. The current shifts all round the compass every hour, and runs at the rate of two miles an hour."

At 6 leagues to the west is a bank of 36 to 50 fathoms, separated from the *Cashes Ledge Bank* by soundings of 80 or 90 fathoms, and with still deeper water to the westward of it. It is called the *Fippenies*.

LIGHTHOUSES of CAPE ANN.—There are two lighthouses on Thatcher's Island. The lanterns of these lighthouses are 900 feet apart in a S. by W. $\frac{1}{2}$ W., and N. by E. $\frac{1}{2}$ E. direction, and 98 feet above the sea: the lights may be seen 7 or 8 leagues off. Thatcher's Island contains about thirty acres of land, secured by an iron-bound shore, and situate at about a mile to the east of the main land of Cape Ann; or, more properly, of Ann's Island. Thatcher's Island affords no harbour, nor is there any safe anchorage very near it; there is, indeed, a passage between it and the main, through which small vessels may pass, even at low tide; but the water is shoal, and the bottom is covered by large stones. So soon as the lights are discovered by the mariner, he may be certain of his situation: for, being two separate lights, they cannot be mistaken for the single light of Boston, or of Cape Cod; or for the Plymouth

passing this ledge, you called Davis's Neck, W. by W. for Squam South, when at the light buoy on Harwar's starboard hand. Continue S.S.W. for the Bar, nearly N.E. and S.W., starboard. In run-
lobster Rocks (which are on the port hand) are dry till nearly low water, and may anchor in from 10 to 15 fathoms, on the starboard

and a flag is hoisted on the mast for vessels upon the

E. 2½ miles distant; and, N. by E. 3 miles.

Cod, the course and this course, you will have the following is a *Beaver*.

from East to West 2 miles in length and breadth, having from 10 to 17 fathoms of water at low water. As you run on sand, with black sand. The current on the bar is strong, any vessel entering the ledge is only 24 feet at low

ty's ship *Argonaut*, the best part being near the shore, he observes, bears the latitude above mentioned, very irregular in compass every hour,

ted from the Cashes and water to the west-

uses on Thatcher's Island, S. by W. ¼ W., and may be seen 7 or 8 miles, secured by an iron chain, land of Cape Ann; the harbour, nor is there any when it and the main, water is shoal, and the lights, they can-
 for the Plymouth

lights, which are double, but within a very short distance from each other; because the distance between the lights on Thatcher's Island is about one-sixth of a mile. The latter can be brought to range in one only in a S. by W. and N. by E. direction; while those of Plum Island, (Newbury Port,) when in a line, bear W. by S. and E. by N. The Plymouth lights cannot appear so arranged from the north until you are on the shore, and from the south when nearly in with the land. The lights of Cape Ann are therefore of great utility to all vessels in their passing in or out; as they at once serve to point out the situations of the Salvages and Londoner, and for a point of departure to vessels bound coastwise, or to sea. CAPE COD is low sandy land, *Cape Ann* is middling high, with many trees on it, and is further to be distinguished by *Pigeon Hill*, which appears like a boat bottom upwards. This hill is about a mile to the south of Halbert Point. The latitude of Thatcher's Island is 42° 38'; the longitude 70° 34' 48", according to the United States Coast Survey.

"*Thatcher's Island Ledge* bears from the body of the island from E.S.E. to S.S.E. extending about two miles from the island. After getting the W. light to bear N. ¼ W., you are to the westward of the ledge; then haul to the N.W. to bring the lights to bear N.E. by E., and steer S.W. by W. for the eastern point which is about 7½ miles distant from Thatcher's Island. Then your course is W. by S., distance 7½ miles, from the lights on Baker's Island."—*Amer. Co. Pilot*.

When you come from the eastward, and make Cape Ann Lights in the night, bring them to bear S.W., and run direct for them, which course will carry you within the *Londoner*; and when you pass these rocks, bring the two lights in one bearing N. by E. ¼ E., and then steer S.S.W. ¼ W.; keeping this course about one mile will carry you clear of *Milk Island*, which is very low, and cannot be seen in a dark night. When you judge yourself to the westward of this island, you haul to the westward until you bring the lights to bear E.N.E., when you must steer W.S.W. about 5 miles, which course will bring you to the eastern point of Cape Ann Harbour.

If you want to go inside the Salvages, keep close aboard Halbert Point, which has a tree on the eastern part of it, and steer S.S.E. for Straitsmouth Island, but be careful to avoid Avery's Rock, by keeping the lights on the dry point of Straitsmouth Island, till you get up close aboard; then haul round the point, and S.S.E. will carry you to the lights. To avoid the *Londoner*, you must keep the lights close aboard the body of the island on which they stand; the *Londoner* lies half a mile off, breaks at all times of tide, is quite dry at low water, and bears E.S.E. from the middle of Thatcher's Island. A long shoal runs off N.E. half a mile distant from the *Londoner*. Between the *Londoner* and Thatcher's Island there are 3 fathoms at low water. From the Salvages to Halbert Point and Sandy Bay, there lies a large spot of flat ground, which at low water will take up a large vessel. Outside the Salvages is very bold. Halbert Point bears from the Salvages W.N.W. 2½ miles distant, and the Salvages bear from the lights N.N.E. 3 miles distant.

SANDY BAY PIER.—"If from the southward in passing outside Straitsmouth Island be careful of Avery's Rock, which bears North from the eastern part of Straitsmouth Island, about one-third of a mile distant. Run W. by N. until you bring the Meeting-house to bear S.W. by S., then run in for the pier-head, on approaching which keep away a little, and run in until you can see into Pier Pool; then luff and run in. Those constantly in the habit of entering this Pool when the wind is eastwardly, make up the headsails, and keep up the mainsail, which enables them to have command of the vessel, and avoid falling against the wharf built out from the beach. If from the northward, after having passed Andrew's Point, bring the meeting-house to bear S.S.W., and run for it. This course will carry clear of Dodge's Ledge, which you will leave on your starboard hand.

"The passage through Straitsmouth Gap is not safe, except at nearly high water; as there are but 3 feet water at low tide, and rocky bottom."—*Amer. Co. Pilot*.

CAPE ANN, or GLOCESTER HARBOUR, is nearly 5 miles to the eastward of Manchester, and 6 miles south-westward from the lighthouses of Cape Ann. The entrance is a mile and a half broad, between the *East Point* and ledge, on one side, and the high land called *Norman's Woe*, on the other. In advancing to this place

from the eastward, you will have Cape Ann lights in one, when bearing N. by E. $\frac{1}{2}$ E.; and, if two miles from them, with that bearing, your course to the harbour will be nearly W.S.W. a league and a half. On falling in with the point give it a berth of about a mile. There is a lighthouse showing a bright fixed light on the E. point. It has also a fog bell.

You will now see a lighthouse on an islet up the harbour, called *Ten Pound Island*. This lighthouse, showing a *fixed light*, has its base about 25 feet above the level of the sea, and the tower is 20 feet high. With this lighthouse bearing N.N.E. you will be to the westward of the ledge extending from the eastern shore, on which is a spar buoy with the head painted red, in 10 feet, and bearing E. $\frac{1}{4}$ S. from Ten Pound Rock, and may steer directly towards the light, which will carry you between the isle and a small ledge of 6 feet, which bears from it S.W. $\frac{1}{4}$ W. about two-thirds of a mile.

Passing between the island and the ledge, you will find from 12 to 15 feet of water; low tides. The ground on the east side of Ten Pound Island is foul, and here is no safe passage. The south, west, and north sides are bold, and may be approached at low water within 50 fathoms. By giving the west end of the island a berth of from 50 to 70 fathoms, the course for the inner harbour is N.E. You may anchor at any distance, from 100 fathoms to three-quarters of a mile from the island, with the light bearing from South to S.W. The depths are 6, 5, 4, and 3 fathoms, at low spring tides; the bottom muddy. The inner harbour is land-locked with all winds.

In the outer part of the harbour there is safe and good anchorage against a northerly or east wind, in $7\frac{1}{2}$ to $6\frac{1}{2}$ fathoms, muddy bottom, the lighthouse bearing S.E. by E. In the S.E. harbour there is similar anchorage, with the light from N. by E. to N.N.W.: the depths 9 to 6 fathoms; distance from the light one-eighth to half a mile.

BEVERLEY and MANCHESTER.—To enter the harbour of Beverley, follow the directions for Salem Harbour, hereafter given, till you bring the Haste to bear E.S.E., and run W.N.W. about 2 miles, and you reach Beverley Bay, which is a spit of sand running out from the southern or Salem side of the entrance, and has commonly a beacon upon the head of it, above a quarter of a mile from the shore. The bar has very shoal water on the eastern or outward side, near it, but good anchorage within. There is good water at the head of the bar. Having passed the bar, there is a sandy point from the Beverley or northern side of the entrance; and beyond this point are the Lobster Rocks, which bear from the head of the bar West a little South, and not half a mile distant, and they are above water at half-tide. To avoid this point, after having well cleared the bar, you will steer towards Ram-horn Rock, which has also commonly a beacon, and is to be seen at half-tide, bearing S.W. by S. from the head of the bar, one-eighth of a mile distant. There are several fathoms of water within a vessel's length of Ram-horn Rock. Giving this a good berth, you then clear the sandy point, and steer for the Lobster Rock beacon, bearing from Ram-horn beacon N.W. by W. distant about one-quarter of a mile. Giving this a good berth, you are then opposite to the wharfs, and may anchor in deep water, and in a very safe and excellent harbour.

To enter *Manchester Harbour* you must bring the southern light to bear S. $\frac{1}{2}$ E., and run North one mile, where you may anchor on good bottom.

N.B. Eastern Point bears from Baker's Island lights E. by N. $\frac{1}{4}$ N. $7\frac{1}{2}$ miles distant. Half-way Rock bears from the lights S. 2° E. 3 miles distant. Hardy's Rocks bear from the lights W. $\frac{1}{4}$ N. distant three-quarters of a mile.

In thick weather, a gun will be fired from the lighthouse in answer to any signal which may then be made.

SALEM is the oldest and largest seaport but one in old Massachusetts. Its Indian name was Naumkeag. It is nearly surrounded by water, lying between two inlets of the sea, called the North and South Rivers. Its situation is low, but pleasant and healthy. Five miles S.W. from Salem is the beautiful town of LYNN, celebrated for the manufacture of shoes. It is one of the most flourishing towns of Massachusetts.

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The romantic peninsula of *Nahant*, with its beautiful beach, is in Lynn Bay, and is a highly esteemed resort of all classes.

BAKER'S ISLAND LIGHTHOUSE.—The entrance of Salem Harbour is distinguished by two lighthouses on Baker's Island, near the middle of the entrance; these lights are 50 feet asunder, one is 15 feet higher than the other, and they bear, when in a line, N.W. 4 W.

Baker's Island lies on the south side of the principal entrance to Salem Harbour, and is 44 miles to the eastward of the town of Salem. The water is deep near the island, and there is no convenient landing-place. The north and east sides are high and rocky. The bases of the lighthouses are about 45 feet above the level of the sea. The lower lighthouse, which is towards the north, is 25 feet high; the upper one 664 feet. The high light may be seen from 64 to 7 leagues off.

Misery Island is about a mile from Baker's Island, and is joined by a bar to Little Misery, which makes the north side of the channel opposite Baker's Island. *Misery Ledge* has 8 feet least water, and bears N.W. by W. 4 W. 14 miles from the lighthouses. The south part of Little Misery Island is three-quarters of a mile N.W. 4 N. from the lights.

Hardy's Rocks, now distinguished by a beacon, lie W. 4 N. from Baker's Island lights, distant five-eighths of a mile. The rocks appear at half-tide. On the east end of *Bowditch's Ledge* is a triangular stone monument, 32 feet high, in 24 fathoms, bearing from Baker's Island lighthouse W.N.W. one mile and a quarter distant.

Cat Island is about S.W. by W. a mile and a half from Baker's Island, and a mile from Marblehead Neck, ranging nearly between the two. On its N.W. end is a high beach, directly opposite the point of Marblehead, called Peach's Point. The shore is irregular and rocky. On the southern side of the island are three high rocks, two of which are connected with the island by bars of sand, uncovered at low water: the other stands boldly up between these two, but more southerly, and on it is a beacon. A black spar buoy lies off the S.E. end, bearing from the lights S.E. 4 S. to S.S.E. 4 E. 24 miles distant.

The Half-way Rock, about 180 feet in diameter, 40 feet high, and bold-to, lies to the east of Marblehead, about 24 miles from the nearest land, and half-way between the lighthouses of Boston and Thatcher's Island.

If bound into this harbour, and you fall in with Cape Ann, supposing Cape Ann lights to bear N.N.W. about two miles distant, your course will be W.S.W. about three leagues, then W. by S. 4 S. 7 or 8 miles, which will bring you up to the lights on Baker's Island.

But should you fall in to the southward when proceeding for the lights, you should, so soon as you have made them, bring and keep the northern or lower light open to the eastward of the other, and thus run for them; this will carry you to the eastward, and clear of the south breaker of Baker's Island, which is very dangerous. On the S.E. part of these breakers is a spar buoy, painted black, and which bears from the lights on the island S.S.E. 4 E. 24 miles.

Should the wind be westerly when beating up, you should not stand to the southward or westward further than to shut one light in with the other; otherwise you will be in danger of the south breaker above mentioned; neither stand to the northward further than to bring the lights W. by S. 4 S., or you will be in danger of *Gale's Ledge*, a ledge which bears from the lights N.E. by E. one mile and three-quarters distant.

The Common or Ship Channel into Salem is between Baker's Island and Misery Isles. It is about a mile wide: and you may, so soon as you are up with Baker's Island, pass within 100 fathoms of it, and steer W. by N. for the *Haste*, a broken rock above water, which lies near the middle of the channel, with Baker's Island W. by N. 24 miles, and at 14 mile from Salem Neck. This course will lead clear to the southward of *Hardy's Rocks*, a ledge covered at high water, and to the northward of the stone beacon on *Bowditch's Ledge*.

From mid-channel, between Baker's and Misery Islands, you may steer W.N.W. till you have passed Bowditch's Ledge, or until *Cat Island* comes open to the westward of *Eagle Island*; then haul up for the *Haste*, above mentioned.

You may anchor safely in 5 fathoms; but to proceed further, pass the *Haste* at the distance of about half a mile on the port, and steer S.W. by W., which will carry you to the harbour. Observe, however, that a rocky ledge stretches from the N.E. end of *Winter Island*, and that a rock, called *Abbot's Rocks*, lies abreast of it, to avoid which, keep a quarter of a mile from shore. This rock has 7 feet over it at low water, and is found by bringing *Castle Hill* and *House* into the cove north of *Fort Pickering*, and *Beverley Meeting-house* well in with *Juniper Point*, the S.E. point of *Salem Neck*.

Be cautious, when keeping off-shore, in order to avoid *Abbot's Rock*, that you do not go far as to get on the *Aqua-vita*, sunken rocks, lying E.S.E. nearly half a mile from *Fort Pickering*.

Should you when coming from the south-eastward find yourself near the *Half-way Rock*, you may bring it S.E., and steer N.W. for the *Haste*, passing near the *Satan* or *Black Rock*. The latter is above water, steep-to, and bears S.W. by S. $1\frac{1}{2}$ mile from Baker's Island. It should be left on the port hand, and the *Brimbles* and *Eagle Island* on the starboard. The *Brimbles* are sunken rocks, bare at low water; near them is a spar buoy, painted red, which is seen out of water at half-ebb. By continuing this course, you leave the *Haste* on the port, and enter the *Ship Channel*, whence proceed as above directed. Common tides here rise about 12 feet.

MARBLEHEAD HARBOUR.—Vessels bound to Marblehead, falling to the southward, and running for the lights on Baker's Island, after making them must keep the north and lower one open to the eastward of the southern light, and run for them, which will carry them to the eastward, and clear of the south breakers off Baker's Island, which bear from the lights from S.E. $\frac{1}{4}$ S. to S.S.E. $\frac{1}{4}$ E. distant $2\frac{1}{2}$ miles, and has the buoy on the S.E. part, as before described.

Having made the lights with a westerly wind, and beating, when within $2\frac{1}{2}$ miles of them, you may not stand to the southward and westward so far as to shut the northern light within the southern one, on account of the south breakers; nor to the northward further than to bring the lights to bear W.S.W. $\frac{1}{2}$ W. on account of *Gale's Ledge*, which bears from the lights N.E. by E. distant $1\frac{1}{2}$ mile.

Drawing near the lights, take care to avoid the ledge, called the *Whale's Back*, which bears from the lights N. by E., distant four-fifths of a mile.

In going into *Marblehead*, and being up with the lights, give the north point of *Baker's Island* a berth of one-quarter of a mile or less. Having the lights in a line, you will be up with the point. When the south light is open with the north light, you have then passed the point (leaving *Misery Island* on your starboard hand, which bears from the lights N.W. $\frac{1}{2}$ N. four-fifths of a mile). Then steer S.W. by S., or S.S.W., until you bring the south light to bear N.E. by E. $\frac{1}{2}$ E., then steer S.W. by W. $\frac{1}{2}$ W. 3 miles, for *Marblehead Harbour*. You will leave *Hardy's Rocks*, *Eagle Island*, and *Gray's Rocks*, on the starboard hand; *Pope's Head*, *Brimbles*, and north point of *Cat Island* on the port hand. The *Brimbles* bear from *Eagle Island* S.S.E. $\frac{1}{2}$ E. distant half a mile; and *Gray's Rock*, from the north point of *Cat Island*, N.W. by W. seven-eighths of a mile.

Falling in with the south point of *Baker's Island*, and it blowing hard from the eastward, if you cannot avoid it, you may pass the point by keeping it well on board, say at the distance of from 20 to 50 fathoms from the shore, where you will have from 4 to 5 fathoms of water. When up with the S.W. point, steer W.S.W., which will carry you between the *North Gooseberry* and *Pope's Head*, leaving the former on your port hand, and *Pope's Head* on your starboard hand, between which you will have from $3\frac{1}{2}$ to 5 fathoms of water. So soon as you have passed *Pope's Head*, haul to the northward, until the south light bears N.E. by E. $\frac{1}{2}$ E.; then steer S.W. by W. $\frac{1}{2}$ W. for *Marblehead Harbour*.

The south entrance of the harbour of *Marblehead* is bold, and may be approached

may steer W.N.W. as open to the westward.

pass the Haste at W., which will carry the ship from the N.E. lies abreast of it, to as 7 feet over it at the cove north of Piper Point, the S.E.

Rock, that you do nearly half a mile

near the Half-way Rock, that you do nearly half a mile from the S.E. 1/4 E. distant 2 1/2 miles. By continuing the Ship Channel, at 12 feet.

head, falling to the making them must turn light, and run for the south breakers off S.E. 1/4 E. distant 2 1/2

when within 2 1/2 miles far as to shut the breakers; nor to the W. on account of mile.

the Whale's Back, e.

the north point of the lights in a line, with the north light, starboard hand, which steer S.W. by S., or then steer S.W. by Hardy's Rocks, Eagle Brimbles, and north Eagle Island S.S.E. of Cat Island, N.W.

wing hard from the ng it well on board, you will have from W.S.W., which will ring the former on sen which you will Pope's Head, haul then steer S.W. by

may be approached

with safety with the light on the point of the neck at the S.E. side of the harbour, bearing from N.N.W. to W. by N., until you are within half a mile of it; then bring the light to bear W. by S. and run for it until within 2 cables' length; then steer N.W. by W., until the lighthouse bears S.S.W.; then steer S.W. and anchor with the light bearing from E. by S. to N.E. by E. from a quarter to half a mile distant, in 6 fathoms, good holding ground, and clear bottom, secure from all but easterly gales.

Vessels coming from the eastward, and running for Half-way Rock, distinguished by its beacon, must not bring the rock to bear to the southward of W.S.W., to avoid the south breaker, which bears from Half-way Rock N.E. 1/4 E. distant one mile. Being up with Half-way Rock, and bound into Marblehead, bring the rock to bear E.S.E. 1/4 E., and steer W.N.W. 1/4 W. for Fort Head, distant 3 miles, leaving Cat Island on the starboard hand, which bears from Half-way Rock W.N.W. distant 1 1/2 miles, and Marblehead Rock on the port hand, which bears from Half-way Rock W. 1/4 N. distant two miles.

Marblehead Rock bears S.W. about three-quarters of a mile, from the western part of Cat Island. It is above water, and may be approached to a short distance without danger. On the rock is a monument, or beacon, painted white at the bottom and black at the top; it is about 8 feet in the base and 15 in height. The course and distance from Half-way Rock to Marblehead Fort is W.N.W. 1/4 W. 3 miles, leaving the beacon on Cat Island Rock on the starboard, and the monument on Marblehead Rock on the port side. The monument bears from the beacon W.S.W. 1/4 W. seven-eighths of a mile.

Black Rock bears from Half-way Rock N.W. by W. distant 1 1/4 mile. Cat Island Rock and Point Neck bear East and West of each other, distant about one mile.

Vessels being up in Boston Bay may, by bringing the Boston Light to bear S.S.W., run N.N.E. for Marblehead Rock; they are distant from each other about 12 miles. Half-way Rock and Boston Light bear from each other S.W. and N.E., distant 15 miles.

NOTE.—The Whale's Back is covered at high water, and may be seen at quarter-ebb. Gale's Rocks are seen only at low spring-tides. The south breakers off Baker's Island are always covered. The Brimbles are covered at high water, and are seen at half-tide. Black Rock is always out of water, but low. Cat Island Rock, Half-way Rock, Marble-head Rock, Gray's Rock, and Pope's Head, are large, and high above water. Half-way Rock is very bold all round it. Eagle Island is bold only on the south end east; from the N.E. part of it, quite to Hardy's Rocks, is very shoal water, and no passage for ships.

BOSTON.—From Seal Island Lighthouse to the entrance of Boston Harbour, the direction and distance are W. 1/4 S. 220 miles, but it should be remembered that the dangerous rock on *Cash's Ledge* is just to the northward of this course.

The lighthouses of Cape Anne, and those on the Cape Cod peninsula, described in the list, are the most prominent points in approaching Boston.

From about a league off Cape Cod, the course to the granite lighthouse on the outer Minots Ledge is N.W. by W. 1/4 W., and the distance 28 miles, and from thence to Boston Lighthouse N.W. 1/4 W. 5 miles. The lighthouse, which is 82 feet high, stands on a small island at the north side of the entrance of the channel. Those making the Light, and unable to obtain a pilot, may bring it to bear W.N.W., and run boldly for it, until within a cable's length, then steer W. by S. until in 5 fathoms, where there is safe anchorage.

When you make the light with a fair wind, bring it to bear W. by N. or W.N.W., then steer for it until you are within two cables' length distance. Come no nearer to it, but run in until it bears N. by E.

With adverse weather, and you cannot get a pilot from the lighthouse, after bringing it to bear N. by E. as above, you may run W. by S. two miles, until the light on the N.E. end of Long Island bears N.W. by N. Then steer N.W. about one mile,

or until the outer lighthouse is hid by George's Island, where you may anchor in safety, in *Nantasket Road*, and in from 5 to 7 fathoms.

If the wind be contrary, you may stand to the southward till you bring the outer light to bear W.N.W., and to the northward till it bears W.S.W., until you come 3 miles of it; then you must not stand to the northward any further than to bring the light to bear W. by N., nor to the southward than till it bears W.N.W.; you may safely anchor in the bay, if the wind be off the shore.

From off Cape Anne to Boston Lighthouse on Great Brewster Island, your course is S.W., and the distance nearly 8 leagues. When you proceed from Cape Cod to Boston Bay, with a flood-tide, you should steer about one point to the northward of the course already described, because the flood sets into Barnstable Bay. This precaution is the more necessary when the wind is northerly. Similar care is requisite in steering from Boston Bay to Cape Cod.

Until you advance to within two leagues of Boston Lighthouse, you shoalen your water from 35 to 19 fathoms. The soundings are irregular. On the Cape Anne shore the bottom is rocky; but towards Cape Cod it is of fine sand.

On the days of the full and change of the moon, it is high water off Boston Lighthouse at ten o'clock. It flows off the town till a quarter of an hour after eleven. The spring-tides rise 16 feet perpendicularly; neap-tides, 12 feet.

TO SAIL IN DURING THE NIGHT, OR TURN WITHIN THE LIGHTHOUSE ANCHORAGE.—Coming from sea in the night, bring the lighthouse to bear West, and steer for it, observing to incline your course southerly as you approach, in order to give a berth of two cables' length to the Lighthouse Island. When you are abreast of the light, shape your course West, until it bears from N.N.E. to N.E. Here, if not acquainted with the harbour, you may anchor till daylight. With the wind between the S.W. and N.W. quarters, a ship may, in great safety, turn up within the lighthouse anchorage, taking care not to stand further southward than to bring the light to bear W.S.W., nor further northward than N.N.W.

Boston Harbour.—Off the entrance of the harbour is a small shoal, called the *Cod Bank*, which lies E. by S. nearly three miles from the lighthouse, and in the fairway of the harbour, with Point Alderton and the north sides of the two islands within it nearly in a line, W. $\frac{1}{4}$ S., and the S.W. ends of the two outer islands on the north side, in a line, bearing N.W. $\frac{1}{4}$ W.

On the South, or port side of the entrance, are *Harding's Rocks*, a cluster steep-to, and which lie at the distance of $2\frac{1}{2}$ miles S.E. from the lighthouse. At low water the largest rock shows itself about twenty feet long and four feet high. It is surrounded by smaller blind rocks, extending about 140 fathoms on all sides. The marks for the largest are the S.W. point of the Lighthouse Island and western point of Great Brewster Island in one, and Nahant Rock, nearly N. by E. a small ship's length open with the S.W. end of the rocks called the Graves. A *white buoy* is now laid on the N.E. side of the Harding's, which is, on entering, to be left on the port hand.

Alderton Shoal extends in a northern direction from the bluff head of Point Alderton, on the South side, and about one-third over. There is a *red buoy* on the outer part of this shoal, which bears from the white buoy of the Harding's N.W. by W. $\frac{1}{4}$ W. one mile and a half.

The *Egg Rocks* are a cluster, above water, on the North side, at the distance of half a mile E. by N. from the lighthouse on Brewster Island.

The *Beacon* on the S.W. end of the Spit of Great Brewster Island stands at the distance of a mile and a quarter W. $\frac{1}{4}$ S. from the lighthouse. It marks the entrance of the *NARROWS*, which lie between Lovell's Island on the East, and George's Island, with Gallop and Nick's Mate Island, on the West. On the north side of the Narrows is a *red beacon light*.

In 1860 a singular discovery of a *dangerous sunken rock* was made nearly in mid-channel of the Narrows. It has from 16½ to 17 feet at low water, and doubtless has picked up many vessels. False Spit beacon bears E. ½ N. from it: The Narrows Lighthouse N.E. ½ N., and Nick's Mate beacon N.W. ½ W., and are one with Boston Lighthouse.

The *Centurion*, a rock of eleven feet at low water, lies at nearly half a mile S. ½ W. from the beacon, and is left, on entering the Narrows on the West or port side. It lies with the S.E. points of Great Brewster and Westward Brewster Isles in a line, and one-third of Nick's Mate Island shut with the east side of George's Island.

From the S.E. side of George's Island a rocky bank extends to the distance of more than a quarter of a mile, and has on its extremity a black buoy. The entrance of the Narrows lies between this buoy and the Beacon Point.

On *Nick's Mate Island*, at the other end of the Narrows, upon the western side, is a *beacon*, or monument; and upon the northern part *Long Island*, nearly a mile to the westward of Nick's Mate Island, is a *lighthouse*.

On coming inward, direct from the East, for Boston Harbour, the proper parallel, if it can be kept, is 42° 20' N. The Cod Bank, already described, lies in 42° 19' 40". If a ship should happen to fall to the southward of the harbour, care must be taken to avoid the *Cohasset Rocks*, which lie at some distance from the land, five miles to the south-eastward of Point Alderton. The outer one, called *Minot's Ledge*, has the lighthouse on it as above described. From this lighthouse the course to Boston Harbour is N.W., distance two leagues. In running thus, you will pass the white buoy on Harding's Rocks, and may thence haul up to the westward, passing between the Lighthouse Island and the red buoy on Alderton Shoal.

From the middle of the Lighthouse Channel steer W. by N. one mile, to the beacon on the Spit, to which you may approach within one quarter of a cable's length, leaving it on the starboard hand, while the *Centurion Rock* and black buoy on the shoal ground of George's Island are left on the port. Having thus entered the Narrows, the Course up to Gallop Island Point is N.W. by N. three quarters of a mile; and thence through, by Nick's Mate, N.N.W. half a mile. The beacon on Nick's Mate may be left on the port hand, at the distance of a cable's length.

From Nick's Mate, the course for Castle Island, through the main channel is W. by N. three miles. In running thus you will first leave a *white spar buoy* on the Lower Middle Ground upon the starboard hand, which buoy is a mile below Castle Island. You will next see a *white buoy* upon the Castle Rocks, which lies in 2 fathoms, on the port.

The American Coast Pilot also says, The Lower Mill Ground, which lies on the north side of the channel, a little above Spectacle Island, and which is in part dry at low water, has on its eastern part a red buoy, and on the western point a black buoy, in two fathoms; to be left on the port hand.

When abreast of the castle, steer N.N.W. one quarter of a mile, to clear the Upper Middle Ground, which has a black buoy on it, in 2 fathoms, to be left on the port hand. Should this buoy happen to be taken up, run N.N.W. until the two northernmost steeples in Boston are a handspike's length open; a course then N.W. by W. 2 miles, will bring you up to the town.

BROAD SOUND is the northern entrance of Boston Harbour, but is not a proper channel for large vessels. Without its entrance are the *Graves*, a cluster of rocks appearing white, and which lie in latitude 42° 22' 30": these may be left on the port hand, at the distance of two cables' length. Bring them to bear S.E. and run on S.W. by W. This course, for four miles, leads up to the lighthouse on the north point of Long Island, described above.

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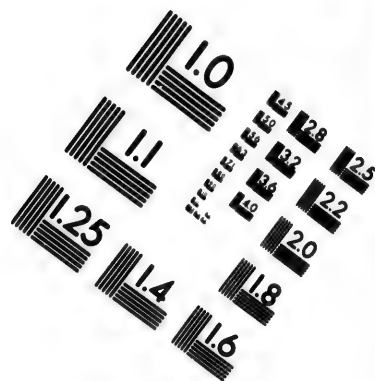
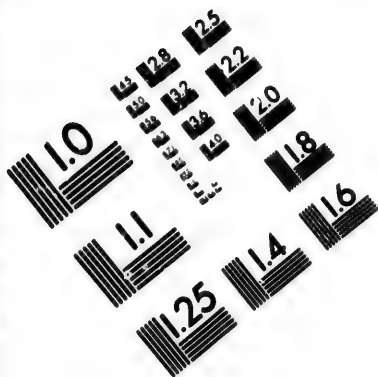
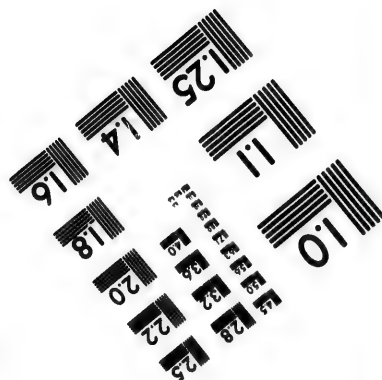
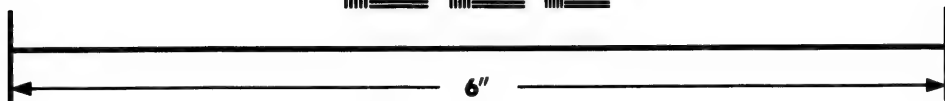
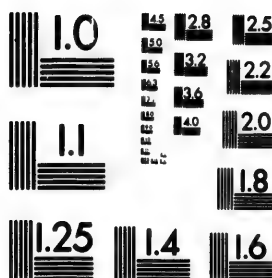


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